

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: P546755

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-81-88-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: P546755
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-50-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

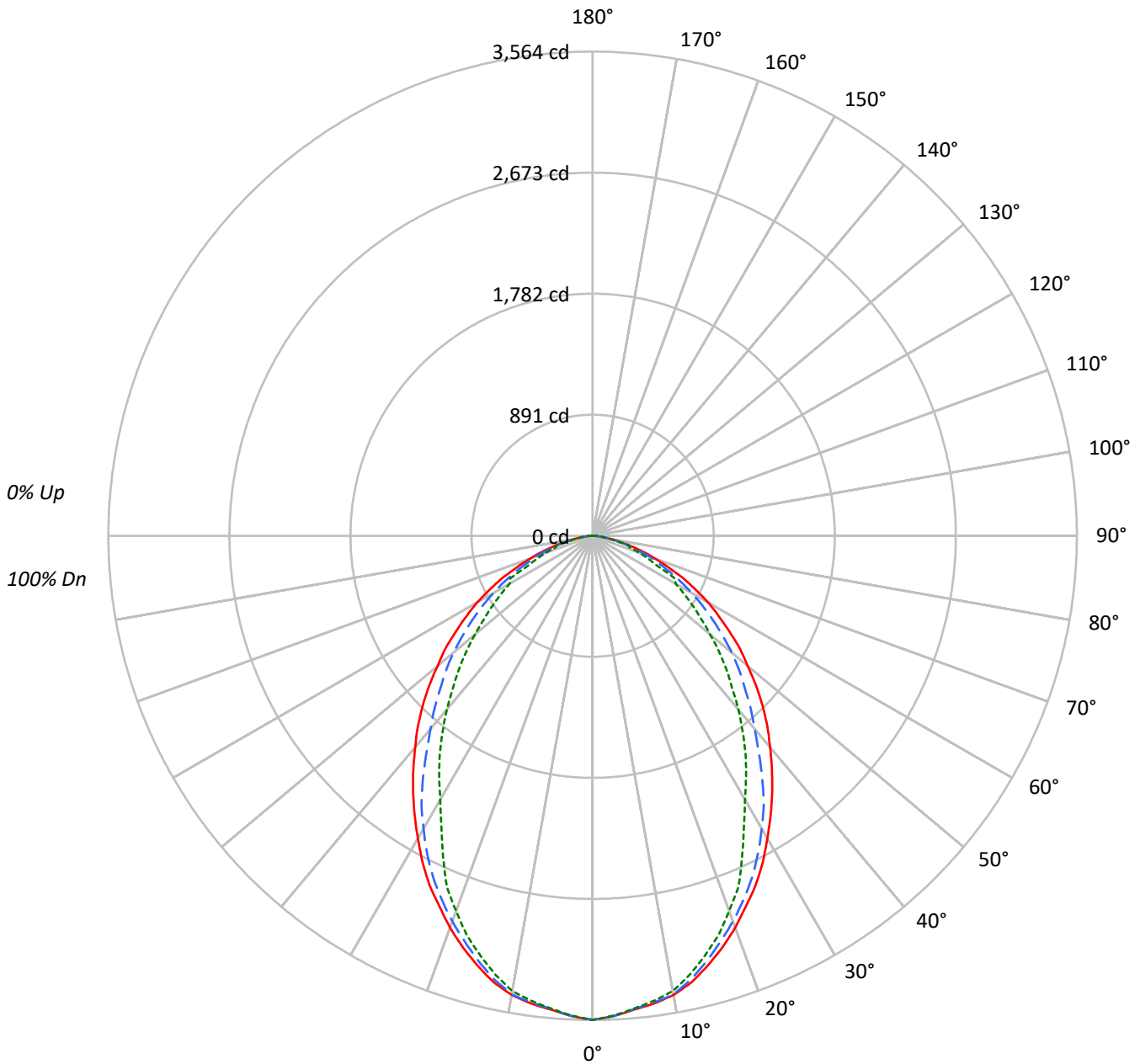
Lumens per Lamp: N/A
Luminaire Lumens: 6996.0 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V): NR
Input Current (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									
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°	4795	4795	4795
5°	4730	4724	4719
10°	4689	4683	4649
15°	4562	4516	4453
20°	4395	4324	4206
25°	4214	4122	3865
30°	3994	3866	3482
35°	3783	3573	3221
40°	3567	3256	2931
45°	3363	3010	2650
50°	3113	2794	2363
55°	2880	2532	2116
60°	2639	2261	1896
65°	2322	1981	1679
70°	1912	1734	1426
75°	1521	1328	1392
80°	1021	958	894
85°	636	763	891



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.7	4.7
10°-20°	910.4	13.0
20°-30°	1260.4	18.0
30°-40°	1343.9	19.2
40°-50°	1226.1	17.5
50°-60°	960.5	13.7
60°-70°	626.0	8.9
70°-80°	277.3	4.0
80°-90°	59.6	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°	2502.5	35.8
0°-40°	3846.5	55.0
0°-60°	6033.1	86.2
0°-90°	6996.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6996.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3564	3564	3564	3564	3564	
5°	3502	3498	3498	3494	3494	332
15°	3275	3275	3242	3209	3197	921
25°	2839	2822	2777	2678	2604	1303
35°	2303	2286	2175	2010	1961	1440
45°	1767	1730	1582	1450	1392	1361
55°	1228	1191	1079	952	902	1101
65°	729	688	622	634	527	719
75°	292	272	255	243	268	314
85°	41	45	49	54	58	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3563.7	3563.7	3563.7	3563.7	3563.7
2.5°	3538.9	3538.9	3538.9	3534.8	3534.8
5°	3501.9	3497.8	3497.8	3493.6	3493.6
7.5°	3473.0	3468.9	3464.8	3460.7	3452.4
10°	3431.8	3431.8	3427.7	3407.1	3403.0
12.5°	3365.9	3361.8	3345.3	3316.5	3308.2
15°	3275.3	3275.3	3242.3	3209.4	3197.0
17.5°	3176.4	3172.3	3131.1	3098.1	3081.6
20°	3069.3	3061.0	3019.8	2966.3	2937.5
22.5°	2949.8	2949.8	2900.4	2830.3	2801.5
25°	2838.6	2822.1	2776.8	2677.9	2603.7
27.5°	2710.9	2686.1	2636.7	2496.6	2410.1
30°	2570.8	2558.4	2488.4	2307.1	2241.2
32.5°	2439.0	2418.4	2344.2	2154.7	2101.1
35°	2303.0	2286.5	2175.3	2010.5	1961.0
37.5°	2167.0	2146.4	2006.4	1874.5	1812.7
40°	2031.1	2006.4	1853.9	1734.5	1668.5
42.5°	1903.4	1870.4	1722.1	1594.4	1520.2
45°	1767.4	1730.3	1582.0	1450.2	1392.5
47.5°	1631.5	1598.5	1462.5	1326.6	1260.7
50°	1487.3	1458.4	1334.8	1198.9	1128.8
52.5°	1367.8	1322.5	1203.0	1067.0	1009.4
55°	1227.7	1190.6	1079.4	951.7	902.2
57.5°	1100.0	1062.9	959.9	840.4	799.3
60°	980.5	927.0	840.4	737.5	704.5
62.5°	848.7	807.5	733.3	646.8	688.0
65°	729.2	688.0	622.1	634.5	527.3
67.5°	597.4	576.8	519.1	461.4	444.9
70°	486.1	461.4	440.8	379.0	362.5
72.5°	387.3	362.5	333.7	300.7	288.4
75°	292.5	271.9	255.4	243.1	267.8
77.5°	201.9	193.6	181.3	168.9	164.8
80°	131.8	127.7	123.6	119.5	115.4
82.5°	78.3	78.3	78.3	78.3	78.3
85°	41.2	45.3	49.4	53.6	57.7
87.5°	24.7	24.7	28.8	33.0	37.1
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)