

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: P546989

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-82-96-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: P546989
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-35-UNV-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

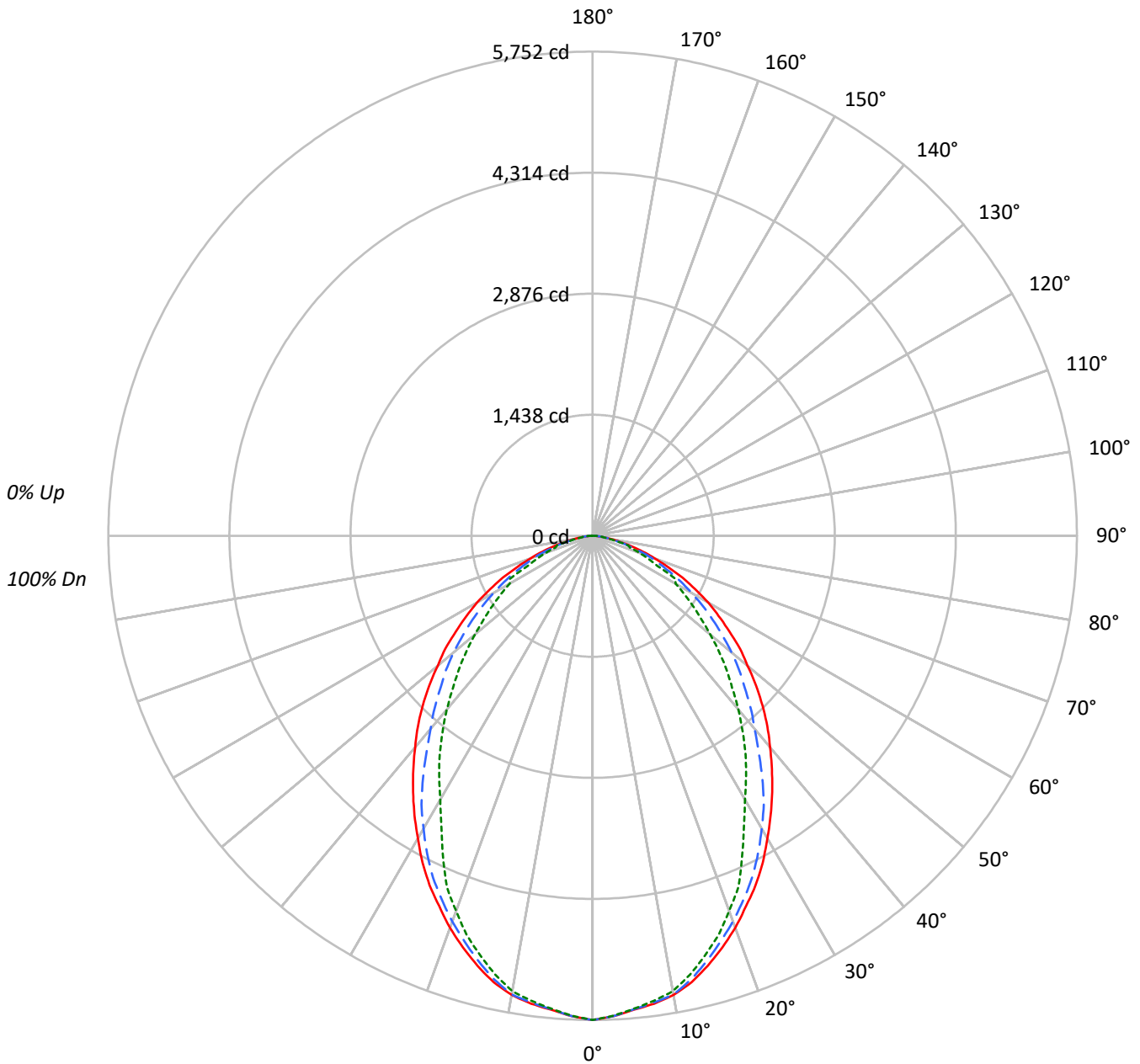
Lumens per Lamp: N/A
Luminaire Lumens: 11293.0 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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								
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°	7740	7740	7740
5°	7635	7626	7617
10°	7569	7559	7505
15°	7365	7290	7188
20°	7094	6980	6789
25°	6803	6654	6240
30°	6447	6241	5621
35°	6106	5768	5199
40°	5759	5256	4731
45°	5429	4859	4277
50°	5025	4510	3814
55°	4649	4087	3416
60°	4259	3651	3060
65°	3748	3197	2710
70°	3087	2799	2302
75°	2455	2143	2247
80°	1649	1546	1443
85°	1027	1232	1437



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	535.5	4.7
10°-20°	1469.6	13.0
20°-30°	2034.5	18.0
30°-40°	2169.4	19.2
40°-50°	1979.1	17.5
50°-60°	1550.5	13.7
60°-70°	1010.5	8.9
70°-80°	447.7	4.0
80°-90°	96.1	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°	4039.6	35.8
0°-40°	6209.0	55.0
0°-60°	9738.6	86.2
0°-90°	11293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11293.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5752	5752	5752	5752	5752	
5°	5653	5646	5646	5639	5639	537
15°	5287	5287	5234	5181	5161	1486
25°	4582	4556	4482	4323	4203	2104
35°	3718	3691	3511	3245	3166	2324
45°	2853	2793	2554	2341	2248	2198
55°	1982	1922	1742	1536	1456	1778
65°	1177	1111	1004	1024	851	1160
75°	472	439	412	392	432	506
85°	66	73	80	86	93	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5752.5	5752.5	5752.5	5752.5	5752.5
2.5°	5712.6	5712.6	5712.6	5706.0	5706.0
5°	5652.7	5646.1	5646.1	5639.4	5639.4
7.5°	5606.2	5599.5	5592.9	5586.2	5572.9
10°	5539.7	5539.7	5533.0	5499.8	5493.1
12.5°	5433.3	5426.6	5400.0	5353.5	5340.2
15°	5287.0	5287.0	5233.8	5180.6	5160.6
17.5°	5127.4	5120.7	5054.2	5001.0	4974.4
20°	4954.5	4941.2	4874.7	4788.2	4741.7
22.5°	4761.6	4761.6	4681.8	4568.8	4522.2
25°	4582.1	4555.5	4482.3	4322.7	4203.0
27.5°	4375.9	4336.0	4256.2	4030.1	3890.4
30°	4149.8	4129.8	4016.8	3724.2	3617.8
32.5°	3937.0	3903.7	3784.0	3478.1	3391.6
35°	3717.5	3690.9	3511.4	3245.3	3165.5
37.5°	3498.1	3464.8	3238.7	3025.9	2926.1
40°	3278.6	3238.7	2992.6	2799.8	2693.4
42.5°	3072.4	3019.2	2779.8	2573.7	2454.0
45°	2853.0	2793.1	2553.7	2340.9	2247.8
47.5°	2633.5	2580.3	2360.9	2141.4	2035.0
50°	2400.8	2354.2	2154.7	1935.2	1822.2
52.5°	2207.9	2134.7	1941.9	1722.4	1629.3
55°	1981.8	1921.9	1742.4	1536.2	1456.4
57.5°	1775.6	1715.8	1549.5	1356.7	1290.2
60°	1582.8	1496.3	1356.7	1190.4	1137.2
62.5°	1370.0	1303.5	1183.8	1044.1	1110.6
65°	1177.1	1110.6	1004.2	1024.1	851.2
67.5°	964.3	931.0	837.9	744.8	718.2
70°	784.7	744.8	711.6	611.8	585.2
72.5°	625.1	585.2	538.7	485.5	465.5
75°	472.2	438.9	412.3	392.4	432.3
77.5°	325.9	312.6	292.6	272.7	266.0
80°	212.8	206.2	199.5	192.9	186.2
82.5°	126.4	126.4	126.4	126.4	126.4
85°	66.5	73.2	79.8	86.5	93.1
87.5°	39.9	39.9	46.6	53.2	59.9
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)