

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: P546708

Luminaire Tested: **FMR-24-4-LD4-2HI-35-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: P546708
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

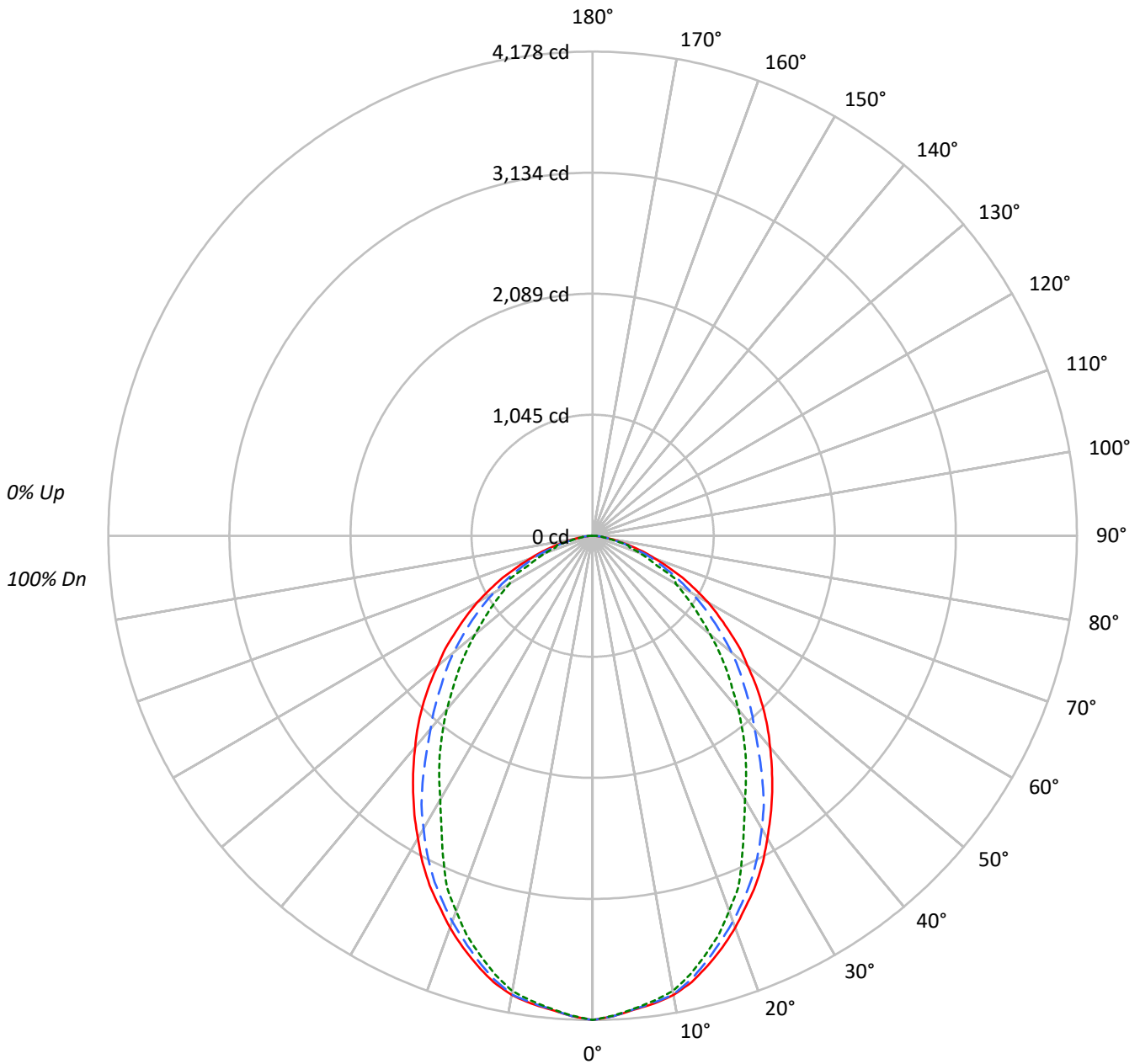
Lumens per Lamp: N/A
Luminaire Lumens: 8202.0 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	5621	5621	5621
5°	5545	5539	5532
10°	5497	5490	5451
15°	5349	5295	5221
20°	5152	5069	4931
25°	4941	4833	4532
30°	4683	4532	4082
35°	4435	4189	3776
40°	4182	3818	3436
45°	3943	3529	3107
50°	3650	3276	2770
55°	3377	2969	2481
60°	3094	2651	2222
65°	2722	2322	1968
70°	2242	2033	1672
75°	1783	1557	1632
80°	1198	1123	1048
85°	746	895	1044



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	388.9	4.7
10°-20°	1067.3	13.0
20°-30°	1477.7	18.0
30°-40°	1575.6	19.2
40°-50°	1437.4	17.5
50°-60°	1126.1	13.7
60°-70°	733.9	8.9
70°-80°	325.2	4.0
80°-90°	69.8	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°	2933.9	35.8
0°-40°	4509.5	55.0
0°-60°	7073.1	86.2
0°-90°	8202.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8202.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4178	4178	4178	4178	4178	
5°	4106	4101	4101	4096	4096	390
15°	3840	3840	3801	3763	3748	1079
25°	3328	3309	3256	3140	3053	1528
35°	2700	2681	2550	2357	2299	1688
45°	2072	2029	1855	1700	1633	1596
55°	1439	1396	1266	1116	1058	1291
65°	855	807	729	744	618	843
75°	343	319	300	285	314	368
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4178.0	4178.0	4178.0	4178.0	4178.0
2.5°	4149.0	4149.0	4149.0	4144.2	4144.2
5°	4105.5	4100.7	4100.7	4095.9	4095.9
7.5°	4071.7	4066.9	4062.1	4057.2	4047.6
10°	4023.4	4023.4	4018.6	3994.4	3989.6
12.5°	3946.1	3941.3	3922.0	3888.2	3878.5
15°	3839.9	3839.9	3801.2	3762.6	3748.1
17.5°	3724.0	3719.1	3670.8	3632.2	3612.9
20°	3598.4	3588.7	3540.4	3477.6	3443.8
22.5°	3458.3	3458.3	3400.4	3318.2	3284.4
25°	3327.9	3308.6	3255.5	3139.5	3052.6
27.5°	3178.2	3149.2	3091.2	2927.0	2825.6
30°	3013.9	2999.5	2917.3	2704.8	2627.5
32.5°	2859.4	2835.2	2748.3	2526.1	2463.3
35°	2700.0	2680.7	2550.3	2357.1	2299.1
37.5°	2540.6	2516.5	2352.2	2197.7	2125.2
40°	2381.2	2352.2	2173.5	2033.4	1956.2
42.5°	2231.5	2192.8	2019.0	1869.2	1782.3
45°	2072.1	2028.6	1854.7	1700.2	1632.6
47.5°	1912.7	1874.1	1714.7	1555.3	1478.0
50°	1743.6	1709.8	1564.9	1405.5	1323.4
52.5°	1603.6	1550.4	1410.4	1251.0	1183.4
55°	1439.4	1395.9	1265.5	1115.7	1057.8
57.5°	1289.6	1246.2	1125.4	985.3	937.0
60°	1149.6	1086.8	985.3	864.6	825.9
62.5°	995.0	946.7	859.7	758.3	806.6
65°	854.9	806.6	729.3	743.8	618.2
67.5°	700.4	676.2	608.6	541.0	521.6
70°	569.9	541.0	516.8	444.4	425.0
72.5°	454.0	425.0	391.2	352.6	338.1
75°	342.9	318.8	299.5	285.0	314.0
77.5°	236.7	227.0	212.5	198.0	193.2
80°	154.6	149.7	144.9	140.1	135.2
82.5°	91.8	91.8	91.8	91.8	91.8
85°	48.3	53.1	58.0	62.8	67.6
87.5°	29.0	29.0	33.8	38.6	43.5
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)