

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: P547442

Luminaire Tested: **FMR-24-4-LD4-4LO-50-UNV-93-87-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: P547442
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-LD4-4LO-50-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

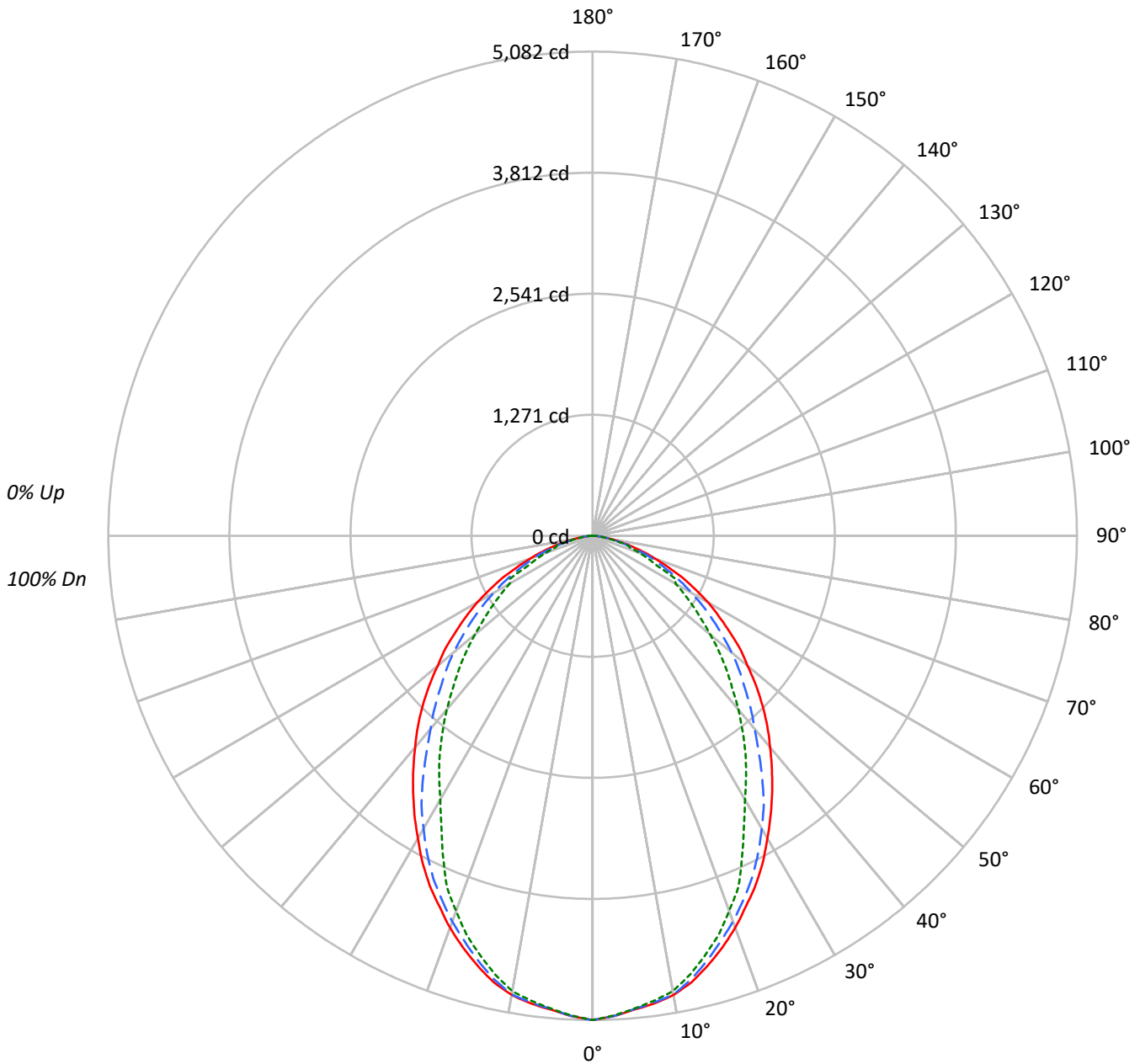
Lumens per Lamp: N/A
Luminaire Lumens: 9977.0 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6838	6838	6838
5°	6745	6737	6729
10°	6687	6679	6630
15°	6506	6441	6351
20°	6267	6166	5998
25°	6010	5879	5513
30°	5696	5513	4966
35°	5395	5095	4594
40°	5087	4644	4179
45°	4796	4293	3779
50°	4440	3985	3370
55°	4107	3611	3018
60°	3763	3225	2704
65°	3311	2825	2394
70°	2727	2473	2034
75°	2168	1894	1985
80°	1457	1366	1275
85°	908	1088	1271



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	473.1	4.7
10°-20°	1298.3	13.0
20°-30°	1797.4	18.0
30°-40°	1916.6	19.2
40°-50°	1748.5	17.5
50°-60°	1369.8	13.7
60°-70°	892.8	8.9
70°-80°	395.5	4.0
80°-90°	84.9	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°	3568.9	35.8
0°-40°	5485.5	55.0
0°-60°	8603.8	86.2
0°-90°	9977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9977.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5082	5082	5082	5082	5082	
5°	4994	4988	4988	4982	4982	474
15°	4671	4671	4624	4577	4559	1313
25°	4048	4025	3960	3819	3713	1858
35°	3284	3261	3102	2867	2797	2053
45°	2520	2468	2256	2068	1986	1942
55°	1751	1698	1539	1357	1287	1570
65°	1040	981	887	905	752	1025
75°	417	388	364	347	382	447
85°	59	65	70	76	82	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5082.2	5082.2	5082.2	5082.2	5082.2
2.5°	5046.9	5046.9	5046.9	5041.0	5041.0
5°	4994.0	4988.1	4988.1	4982.3	4982.3
7.5°	4952.9	4947.0	4941.1	4935.3	4923.5
10°	4894.1	4894.1	4888.3	4858.9	4853.0
12.5°	4800.1	4794.3	4770.8	4729.6	4717.9
15°	4670.9	4670.9	4623.9	4576.9	4559.2
17.5°	4529.9	4524.0	4465.2	4418.2	4394.7
20°	4377.1	4365.4	4306.6	4230.2	4189.1
22.5°	4206.7	4206.7	4136.2	4036.3	3995.2
25°	4048.1	4024.6	3960.0	3819.0	3713.2
27.5°	3866.0	3830.7	3760.2	3560.4	3437.1
30°	3666.2	3648.6	3548.7	3290.2	3196.2
32.5°	3478.2	3448.8	3343.1	3072.8	2996.4
35°	3284.3	3260.8	3102.2	2867.2	2796.7
37.5°	3090.4	3061.0	2861.3	2673.3	2585.1
40°	2896.5	2861.3	2643.9	2473.5	2379.5
42.5°	2714.4	2667.4	2455.9	2273.7	2168.0
45°	2520.5	2467.6	2256.1	2068.1	1985.9
47.5°	2326.6	2279.6	2085.7	1891.9	1797.8
50°	2121.0	2079.9	1903.6	1709.7	1609.8
52.5°	1950.6	1886.0	1715.6	1521.7	1439.5
55°	1750.8	1698.0	1539.3	1357.2	1286.7
57.5°	1568.7	1515.8	1368.9	1198.6	1139.8
60°	1398.3	1321.9	1198.6	1051.7	1004.7
62.5°	1210.3	1151.6	1045.8	922.4	981.2
65°	1039.9	981.2	887.2	904.8	752.0
67.5°	851.9	822.5	740.3	658.0	634.5
70°	693.3	658.0	628.7	540.5	517.0
72.5°	552.3	517.0	475.9	428.9	411.3
75°	417.1	387.8	364.3	346.6	381.9
77.5°	287.9	276.1	258.5	240.9	235.0
80°	188.0	182.1	176.3	170.4	164.5
82.5°	111.6	111.6	111.6	111.6	111.6
85°	58.8	64.6	70.5	76.4	82.3
87.5°	35.3	35.3	41.1	47.0	52.9
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)