

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: P546756

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-81-94-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: P546756
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-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

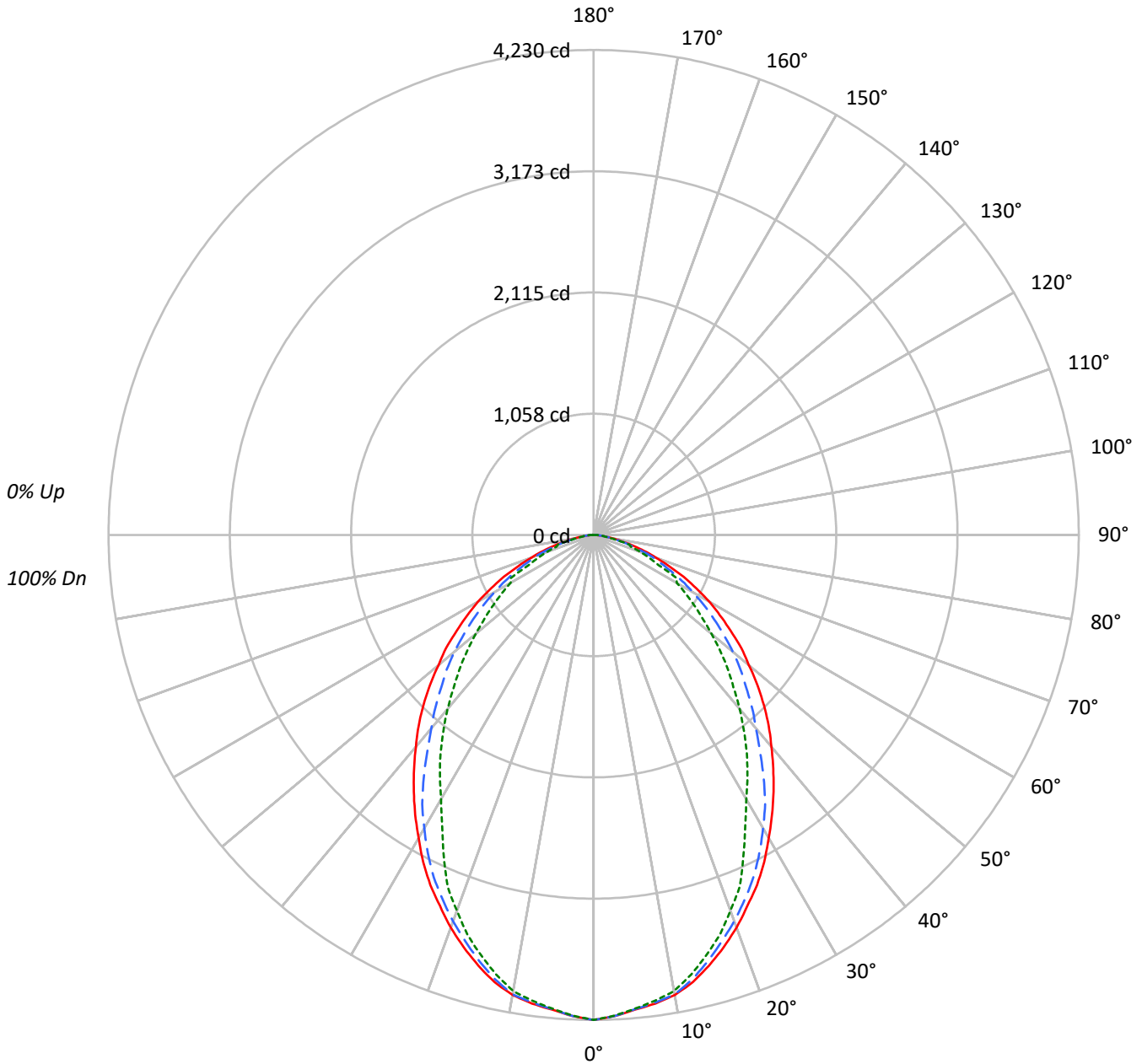
Lumens per Lamp: N/A
Luminaire Lumens: 8305.0 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	5692	5692	5692
5°	5615	5608	5601
10°	5566	5559	5519
15°	5416	5361	5287
20°	5217	5133	4993
25°	5003	4894	4589
30°	4741	4589	4133
35°	4491	4242	3824
40°	4235	3866	3479
45°	3992	3573	3146
50°	3696	3317	2805
55°	3419	3006	2513
60°	3132	2685	2250
65°	2756	2351	1993
70°	2270	2059	1693
75°	1805	1576	1653
80°	1213	1137	1061
85°	755	906	1057



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.8	4.7
10°-20°	1080.7	13.0
20°-30°	1496.2	18.0
30°-40°	1595.4	19.2
40°-50°	1455.5	17.5
50°-60°	1140.2	13.7
60°-70°	743.2	8.9
70°-80°	329.2	4.0
80°-90°	70.7	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°	2970.8	35.8
0°-40°	4566.2	55.0
0°-60°	7161.9	86.2
0°-90°	8305.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8305.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4230	4230	4230	4230	4230	
5°	4157	4152	4152	4147	4147	395
15°	3888	3888	3849	3810	3795	1093
25°	3370	3350	3296	3179	3091	1547
35°	2734	2714	2582	2387	2328	1709
45°	2098	2054	1878	1722	1653	1616
55°	1457	1413	1281	1130	1071	1307
65°	866	817	738	753	626	853
75°	347	323	303	289	318	372
85°	49	54	59	64	68	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4230.5	4230.5	4230.5	4230.5	4230.5
2.5°	4201.1	4201.1	4201.1	4196.2	4196.2
5°	4157.1	4152.2	4152.2	4147.3	4147.3
7.5°	4122.9	4118.0	4113.1	4108.2	4098.4
10°	4074.0	4074.0	4069.1	4044.6	4039.7
12.5°	3995.7	3990.8	3971.2	3937.0	3927.2
15°	3888.1	3888.1	3849.0	3809.9	3795.2
17.5°	3770.7	3765.8	3716.9	3677.8	3658.2
20°	3643.6	3633.8	3584.9	3521.3	3487.1
22.5°	3501.7	3501.7	3443.1	3359.9	3325.7
25°	3369.7	3350.1	3296.3	3179.0	3090.9
27.5°	3218.1	3188.7	3130.0	2963.8	2861.1
30°	3051.8	3037.1	2954.0	2738.8	2660.5
32.5°	2895.3	2870.8	2782.8	2557.8	2494.3
35°	2733.9	2714.3	2582.3	2386.7	2328.0
37.5°	2572.5	2548.1	2381.8	2225.3	2151.9
40°	2411.1	2381.8	2200.8	2059.0	1980.7
42.5°	2259.5	2220.4	2044.3	1892.7	1804.7
45°	2098.1	2054.1	1878.0	1721.5	1653.1
47.5°	1936.7	1897.6	1736.2	1574.8	1496.6
50°	1765.5	1731.3	1584.6	1423.2	1340.1
52.5°	1623.7	1569.9	1428.1	1266.7	1198.2
55°	1457.4	1413.4	1281.4	1129.8	1071.1
57.5°	1305.8	1261.8	1139.5	997.7	948.8
60°	1164.0	1100.4	997.7	875.4	836.3
62.5°	1007.5	958.6	870.5	767.8	816.7
65°	865.7	816.7	738.5	753.2	626.0
67.5°	709.2	684.7	616.2	547.8	528.2
70°	577.1	547.8	523.3	449.9	430.4
72.5°	459.7	430.4	396.1	357.0	342.3
75°	347.2	322.8	303.2	288.6	317.9
77.5°	239.6	229.9	215.2	200.5	195.6
80°	156.5	151.6	146.7	141.8	136.9
82.5°	92.9	92.9	92.9	92.9	92.9
85°	48.9	53.8	58.7	63.6	68.5
87.5°	29.3	29.3	34.2	39.1	44.0
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)