

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: P546317

Luminaire Tested: **FMR-12-4-LD4-2STD-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: P546317
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-12-4-LD4-2STD-35-UNV-82-96-EDD
Description: 1X4 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

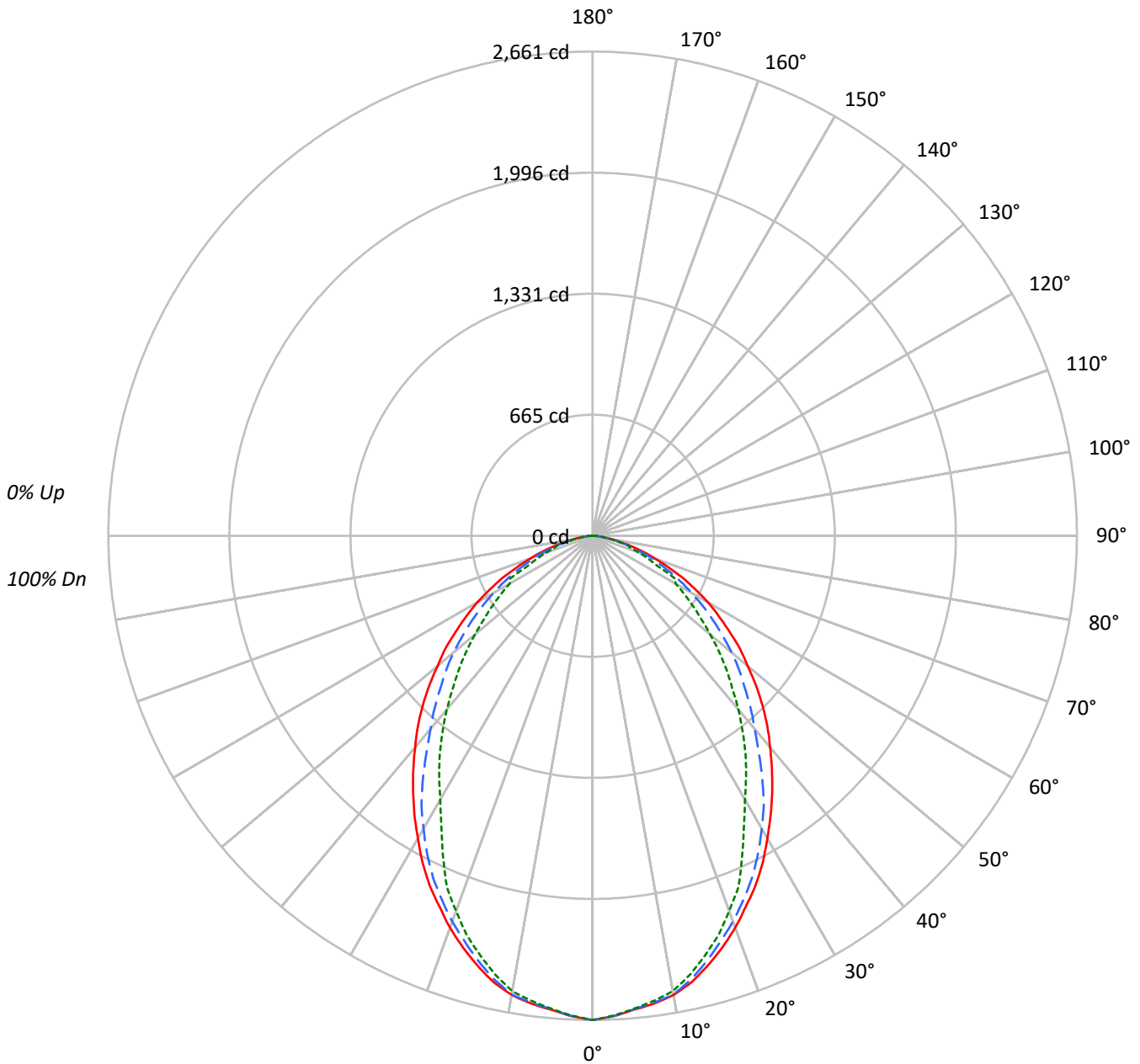
Lumens per Lamp: N/A
Luminaire Lumens: 5224.0 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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									
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			100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87			87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75			75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65			65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56			56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44			44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40			40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36			36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30			30																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7161	7161	7161
5°	7064	7055	7047
10°	7002	6994	6944
15°	6813	6745	6651
20°	6563	6458	6281
25°	6293	6157	5773
30°	5965	5774	5200
35°	5649	5336	4810
40°	5328	4863	4377
45°	5023	4496	3957
50°	4649	4173	3529
55°	4301	3781	3161
60°	3941	3378	2831
65°	3467	2958	2507
70°	2856	2590	2130
75°	2271	1983	2079
80°	1525	1430	1334
85°	951	1139	1331



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.7	4.7
10°-20°	679.8	13.0
20°-30°	941.2	18.0
30°-40°	1003.5	19.2
40°-50°	915.5	17.5
50°-60°	717.2	13.7
60°-70°	467.5	8.9
70°-80°	207.1	4.0
80°-90°	44.5	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°	1868.7	35.8
0°-40°	2872.2	55.0
0°-60°	4505.0	86.2
0°-90°	5224.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5224.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2661	2661	2661	2661	2661	
5°	2615	2612	2612	2609	2609	248
15°	2446	2446	2421	2396	2387	688
25°	2120	2107	2074	2000	1944	973
35°	1720	1707	1624	1501	1464	1075
45°	1320	1292	1181	1083	1040	1017
55°	917	889	806	711	674	822
65°	544	514	464	474	394	537
75°	218	203	191	182	200	234
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2661.0	2661.0	2661.0	2661.0	2661.0
2.5°	2642.6	2642.6	2642.6	2639.5	2639.5
5°	2614.9	2611.8	2611.8	2608.7	2608.7
7.5°	2593.4	2590.3	2587.2	2584.1	2578.0
10°	2562.6	2562.6	2559.5	2544.1	2541.1
12.5°	2513.4	2510.3	2498.0	2476.5	2470.3
15°	2445.7	2445.7	2421.1	2396.5	2387.2
17.5°	2371.9	2368.8	2338.0	2313.4	2301.1
20°	2291.9	2285.7	2255.0	2215.0	2193.4
22.5°	2202.7	2202.7	2165.7	2113.4	2091.9
25°	2119.6	2107.3	2073.5	1999.6	1944.2
27.5°	2024.2	2005.8	1968.9	1864.3	1799.7
30°	1919.6	1910.4	1858.1	1722.8	1673.5
32.5°	1821.2	1805.8	1750.4	1608.9	1568.9
35°	1719.7	1707.4	1624.3	1501.3	1464.3
37.5°	1618.2	1602.8	1498.2	1399.7	1353.6
40°	1516.6	1498.2	1384.4	1295.1	1245.9
42.5°	1421.3	1396.7	1285.9	1190.5	1135.2
45°	1319.8	1292.1	1181.3	1082.9	1039.8
47.5°	1218.2	1193.6	1092.1	990.6	941.4
50°	1110.6	1089.0	996.7	895.2	842.9
52.5°	1021.3	987.5	898.3	796.8	753.7
55°	916.7	889.1	806.0	710.6	673.7
57.5°	821.4	793.7	716.8	627.6	596.8
60°	732.2	692.2	627.6	550.7	526.1
62.5°	633.7	603.0	547.6	483.0	513.7
65°	544.5	513.7	464.5	473.8	393.8
67.5°	446.1	430.7	387.6	344.6	332.2
70°	363.0	344.6	329.2	283.0	270.7
72.5°	289.2	270.7	249.2	224.6	215.3
75°	218.4	203.0	190.7	181.5	200.0
77.5°	150.7	144.6	135.4	126.1	123.1
80°	98.4	95.4	92.3	89.2	86.1
82.5°	58.5	58.5	58.5	58.5	58.5
85°	30.8	33.8	36.9	40.0	43.1
87.5°	18.5	18.5	21.5	24.6	27.7
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)