

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: P546357

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-93-96-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: P546357
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-40-UNV-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

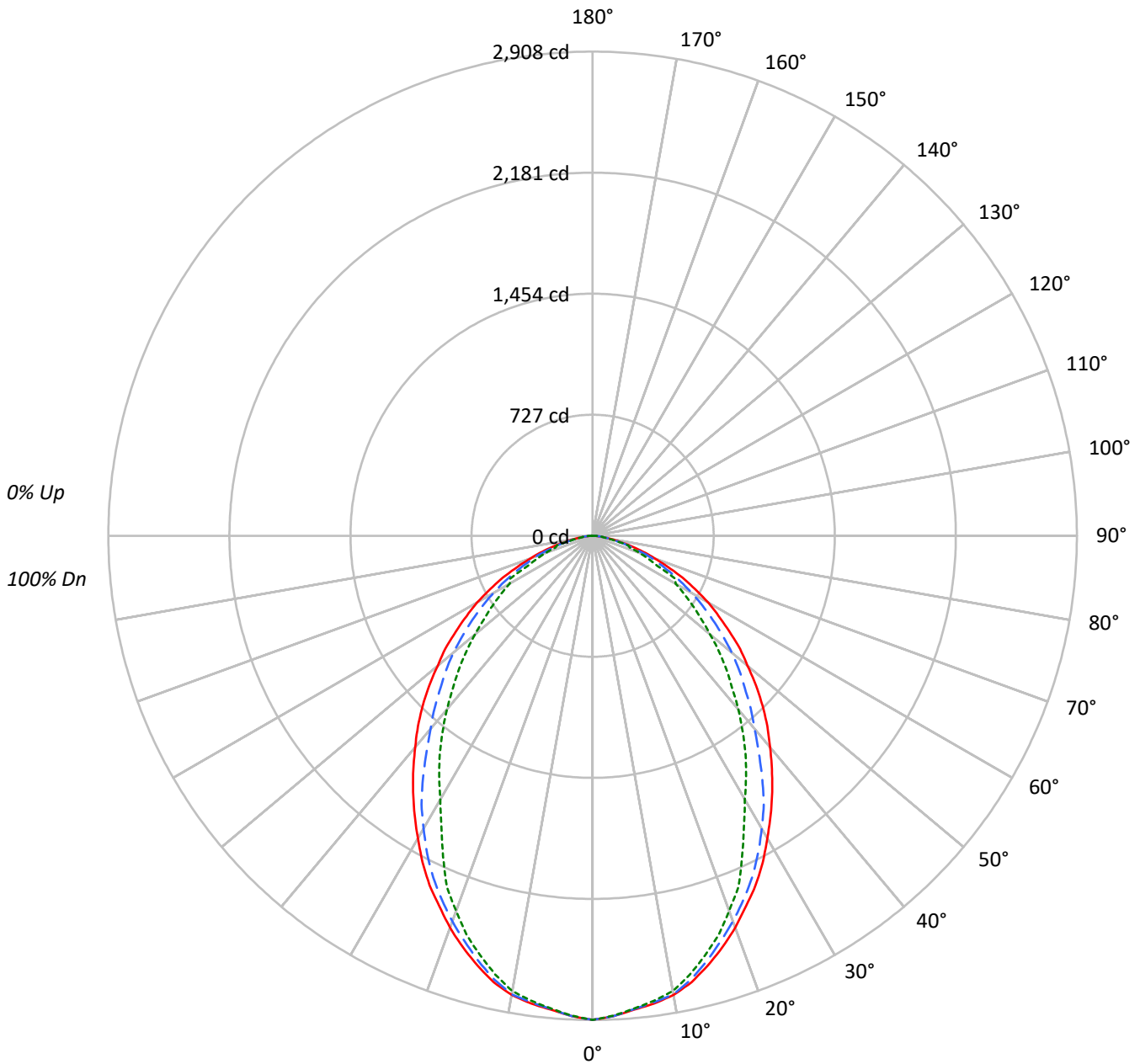
Lumens per Lamp: N/A
Luminaire Lumens: 5708.0 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V): NR
Input Current (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°	7824	7824	7824
5°	7718	7709	7700
10°	7651	7642	7587
15°	7445	7370	7267
20°	7171	7056	6863
25°	6877	6727	6308
30°	6518	6309	5682
35°	6173	5830	5256
40°	5821	5313	4782
45°	5488	4912	4324
50°	5080	4559	3856
55°	4700	4132	3453
60°	4306	3690	3094
65°	3789	3232	2740
70°	3120	2830	2327
75°	2482	2167	2272
80°	1667	1562	1458
85°	1037	1244	1454



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.7	4.7
10°-20°	742.8	13.0
20°-30°	1028.4	18.0
30°-40°	1096.5	19.2
40°-50°	1000.3	17.5
50°-60°	783.7	13.7
60°-70°	510.8	8.9
70°-80°	226.3	4.0
80°-90°	48.6	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°	2041.8	35.8
0°-40°	3138.3	55.0
0°-60°	4922.4	86.2
0°-90°	5708.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5708.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2908	2908	2908	2908	2908	
5°	2857	2854	2854	2850	2850	271
15°	2672	2672	2645	2618	2608	751
25°	2316	2302	2266	2185	2124	1063
35°	1879	1866	1775	1640	1600	1175
45°	1442	1412	1291	1183	1136	1111
55°	1002	971	881	776	736	898
65°	595	561	508	518	430	586
75°	239	222	208	198	218	256
85°	34	37	40	44	47	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2907.6	2907.6	2907.6	2907.6	2907.6
2.5°	2887.4	2887.4	2887.4	2884.0	2884.0
5°	2857.2	2853.8	2853.8	2850.4	2850.4
7.5°	2833.6	2830.3	2826.9	2823.5	2816.8
10°	2800.0	2800.0	2796.7	2779.8	2776.5
12.5°	2746.2	2742.9	2729.4	2705.9	2699.2
15°	2672.3	2672.3	2645.4	2618.5	2608.4
17.5°	2591.6	2588.2	2554.6	2527.7	2514.3
20°	2504.2	2497.5	2463.9	2420.2	2396.7
22.5°	2406.7	2406.7	2366.4	2309.3	2285.7
25°	2316.0	2302.5	2265.6	2184.9	2124.4
27.5°	2211.8	2191.6	2151.3	2037.0	1966.4
30°	2097.5	2087.4	2030.3	1882.4	1828.6
32.5°	1989.9	1973.1	1912.6	1758.0	1714.3
35°	1879.0	1865.6	1774.8	1640.3	1600.0
37.5°	1768.1	1751.3	1637.0	1529.4	1479.0
40°	1657.2	1637.0	1512.6	1415.1	1361.4
42.5°	1552.9	1526.1	1405.0	1300.8	1240.3
45°	1442.0	1411.8	1290.8	1183.2	1136.1
47.5°	1331.1	1304.2	1193.3	1082.4	1028.6
50°	1213.5	1189.9	1089.1	978.2	921.0
52.5°	1116.0	1079.0	981.5	870.6	823.5
55°	1001.7	971.4	880.7	776.5	736.1
57.5°	897.5	867.2	783.2	685.7	652.1
60°	800.0	756.3	685.7	601.7	574.8
62.5°	692.4	658.8	598.3	527.7	561.3
65°	595.0	561.3	507.6	517.6	430.3
67.5°	487.4	470.6	423.5	376.5	363.0
70°	396.6	376.5	359.7	309.2	295.8
72.5°	316.0	295.8	272.3	245.4	235.3
75°	238.7	221.8	208.4	198.3	218.5
77.5°	164.7	158.0	147.9	137.8	134.5
80°	107.6	104.2	100.8	97.5	94.1
82.5°	63.9	63.9	63.9	63.9	63.9
85°	33.6	37.0	40.3	43.7	47.1
87.5°	20.2	20.2	23.5	26.9	30.3
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)