

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: P547217

Luminaire Tested: **FMR-24-4-LD4-3STD-40-UNV-93-86-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: P547217
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-LD4-3STD-40-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

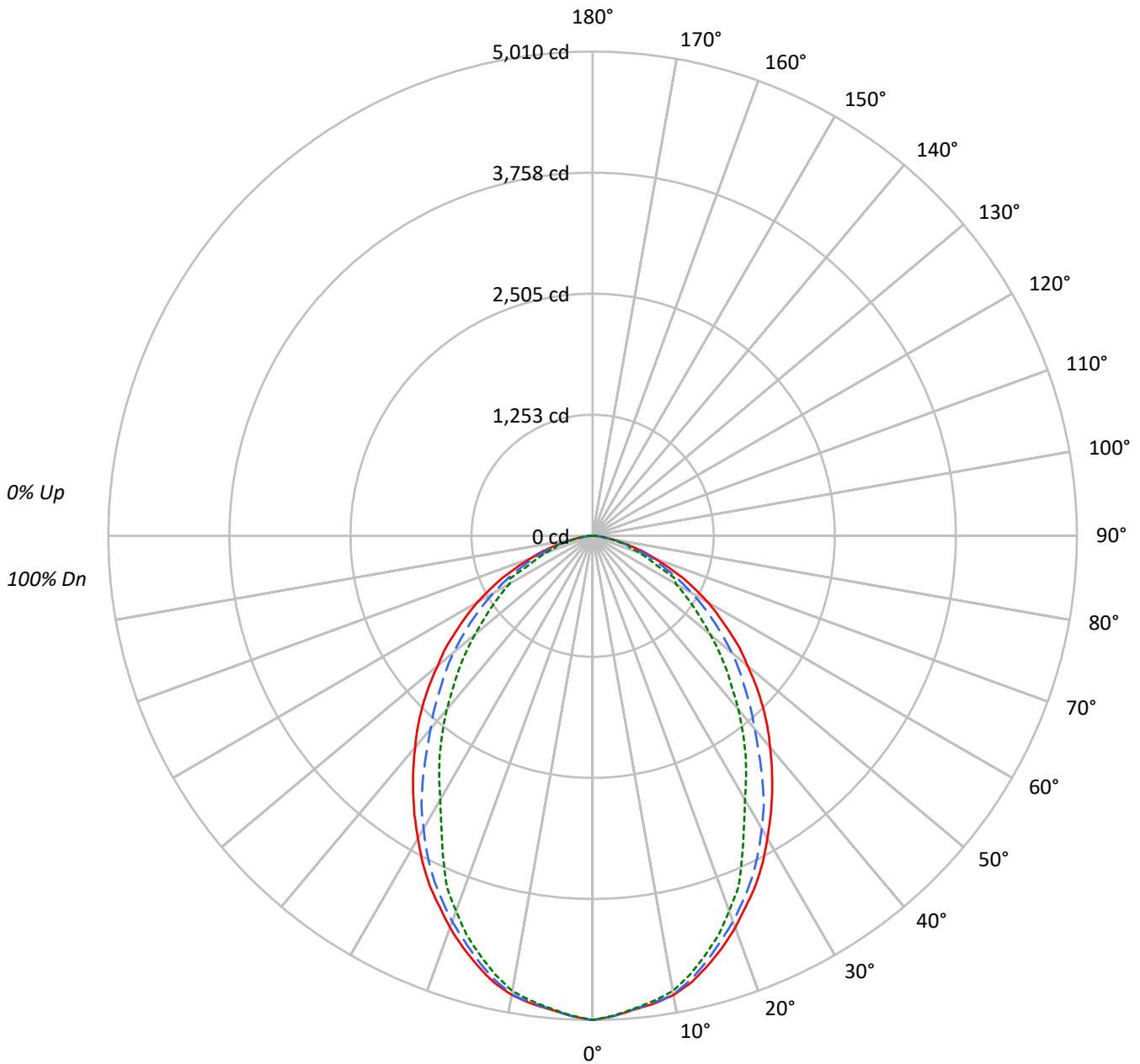
Lumens per Lamp: N/A
Luminaire Lumens: 9835.0 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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				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°	6741	6741	6741
5°	6649	6641	6633
10°	6591	6584	6536
15°	6414	6349	6260
20°	6178	6079	5913
25°	5924	5795	5434
30°	5615	5435	4895
35°	5318	5023	4528
40°	5015	4578	4120
45°	4728	4232	3725
50°	4376	3928	3322
55°	4049	3560	2975
60°	3709	3179	2665
65°	3264	2784	2360
70°	2688	2438	2005
75°	2138	1867	1957
80°	1436	1347	1257
85°	894	1073	1252



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	466.3	4.7
10°-20°	1279.8	13.0
20°-30°	1771.9	18.0
30°-40°	1889.3	19.2
40°-50°	1723.6	17.5
50°-60°	1350.3	13.7
60°-70°	880.1	8.9
70°-80°	389.9	4.0
80°-90°	83.7	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°	3518.1	35.8
0°-40°	5407.4	55.0
0°-60°	8481.3	86.2
0°-90°	9835.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9835.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5010	5010	5010	5010	5010	
5°	4923	4917	4917	4911	4911	467
15°	4604	4604	4558	4512	4494	1294
25°	3990	3967	3904	3765	3660	1832
35°	3238	3214	3058	2826	2757	2024
45°	2485	2432	2224	2039	1958	1914
55°	1726	1674	1517	1338	1268	1548
65°	1025	967	874	892	741	1010
75°	411	382	359	342	376	441
85°	58	64	70	75	81	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5009.8	5009.8	5009.8	5009.8	5009.8
2.5°	4975.1	4975.1	4975.1	4969.3	4969.3
5°	4922.9	4917.2	4917.2	4911.4	4911.4
7.5°	4882.4	4876.6	4870.8	4865.0	4853.4
10°	4824.5	4824.5	4818.7	4789.7	4783.9
12.5°	4731.8	4726.0	4702.9	4662.3	4650.7
15°	4604.4	4604.4	4558.1	4511.7	4494.4
17.5°	4465.4	4459.6	4401.7	4355.4	4332.2
20°	4314.8	4303.2	4245.3	4170.0	4129.5
22.5°	4146.9	4146.9	4077.4	3978.9	3938.4
25°	3990.5	3967.3	3903.6	3764.6	3660.4
27.5°	3810.9	3776.2	3706.7	3509.8	3388.1
30°	3614.0	3596.6	3498.2	3243.4	3150.7
32.5°	3428.7	3399.7	3295.5	3029.1	2953.8
35°	3237.6	3214.4	3058.0	2826.3	2756.8
37.5°	3046.4	3017.5	2820.6	2635.2	2548.3
40°	2855.3	2820.6	2606.3	2438.3	2345.6
42.5°	2675.8	2629.4	2420.9	2241.4	2137.1
45°	2484.6	2432.5	2224.0	2038.7	1957.6
47.5°	2293.5	2247.2	2056.1	1864.9	1772.3
50°	2090.8	2050.3	1876.5	1685.4	1586.9
52.5°	1922.8	1859.1	1691.2	1500.0	1419.0
55°	1725.9	1673.8	1517.4	1337.9	1268.4
57.5°	1546.4	1494.3	1349.5	1181.5	1123.6
60°	1378.4	1303.1	1181.5	1036.7	990.4
62.5°	1193.1	1135.2	1030.9	909.3	967.2
65°	1025.1	967.2	874.5	891.9	741.3
67.5°	839.8	810.8	729.8	648.7	625.5
70°	683.4	648.7	619.7	532.8	509.7
72.5°	544.4	509.7	469.1	422.8	405.4
75°	411.2	382.3	359.1	341.7	376.5
77.5°	283.8	272.2	254.8	237.5	231.7
80°	185.3	179.5	173.8	168.0	162.2
82.5°	110.0	110.0	110.0	110.0	110.0
85°	57.9	63.7	69.5	75.3	81.1
87.5°	34.8	34.8	40.5	46.3	52.1
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)