

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: P546929

Luminaire Tested: **FMR-24-4-LD4-2STD-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: P546929
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-LD4-2STD-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

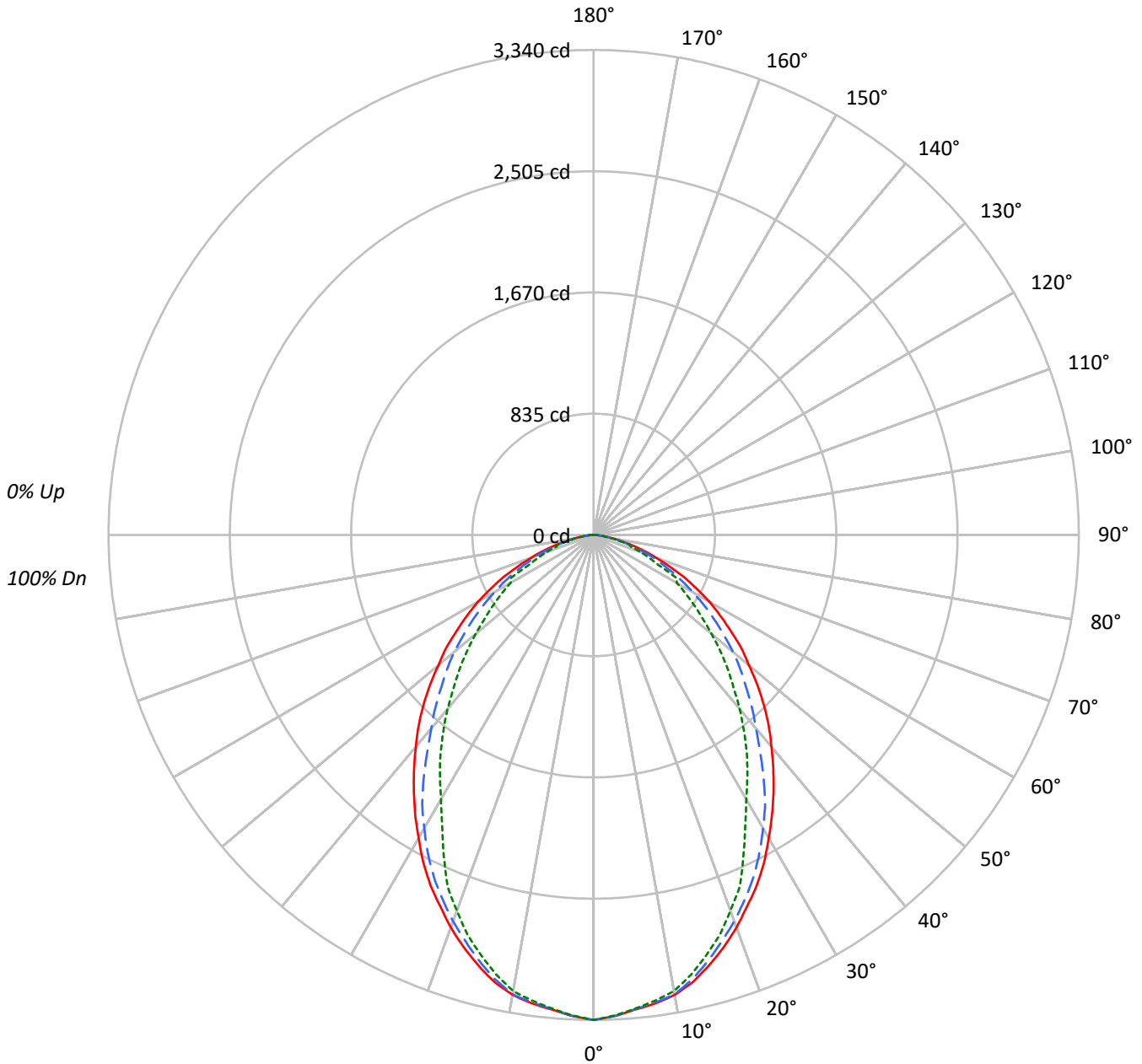
Lumens per Lamp: N/A
Luminaire Lumens: 6557.0 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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																			
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°	4494	4494	4494
5°	4433	4428	4422
10°	4395	4389	4358
15°	4276	4233	4174
20°	4119	4053	3942
25°	3950	3864	3623
30°	3743	3623	3264
35°	3545	3349	3019
40°	3344	3052	2747
45°	3152	2821	2483
50°	2918	2619	2215
55°	2699	2373	1984
60°	2473	2120	1777
65°	2176	1856	1573
70°	1792	1626	1337
75°	1425	1245	1305
80°	958	897	838
85°	596	715	835



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.9	4.7
10°-20°	853.3	13.0
20°-30°	1181.3	18.0
30°-40°	1259.6	19.2
40°-50°	1149.1	17.5
50°-60°	900.3	13.7
60°-70°	586.7	8.9
70°-80°	260.0	4.0
80°-90°	55.8	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°	2345.5	35.8
0°-40°	3605.1	55.0
0°-60°	5654.5	86.2
0°-90°	6557.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6557.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3340	3340	3340	3340	3340	
5°	3282	3278	3278	3274	3274	312
15°	3070	3070	3039	3008	2996	863
25°	2660	2645	2602	2510	2440	1221
35°	2158	2143	2039	1884	1838	1349
45°	1656	1622	1483	1359	1305	1276
55°	1151	1116	1012	892	846	1032
65°	684	645	583	595	494	674
75°	274	255	239	228	251	294
85°	39	42	46	50	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3340.0	3340.0	3340.0	3340.0	3340.0
2.5°	3316.9	3316.9	3316.9	3313.0	3313.0
5°	3282.1	3278.3	3278.3	3274.4	3274.4
7.5°	3255.1	3251.2	3247.4	3243.5	3235.8
10°	3216.5	3216.5	3212.6	3193.3	3189.5
12.5°	3154.7	3150.8	3135.4	3108.4	3100.6
15°	3069.8	3069.8	3038.9	3008.0	2996.4
17.5°	2977.1	2973.2	2934.6	2903.7	2888.3
20°	2876.7	2869.0	2830.4	2780.2	2753.1
22.5°	2764.7	2764.7	2718.4	2652.7	2625.7
25°	2660.5	2645.0	2602.5	2509.9	2440.4
27.5°	2540.8	2517.6	2471.2	2340.0	2258.9
30°	2409.5	2397.9	2332.2	2162.3	2100.6
32.5°	2285.9	2266.6	2197.1	2019.5	1969.3
35°	2158.5	2143.0	2038.8	1884.3	1838.0
37.5°	2031.1	2011.8	1880.5	1756.9	1699.0
40°	1903.6	1880.5	1737.6	1625.6	1563.8
42.5°	1783.9	1753.0	1614.0	1494.3	1424.8
45°	1656.5	1621.8	1482.7	1359.2	1305.1
47.5°	1529.1	1498.2	1370.8	1243.3	1181.6
50°	1393.9	1366.9	1251.1	1123.6	1058.0
52.5°	1282.0	1239.5	1127.5	1000.1	946.0
55°	1150.7	1115.9	1011.7	892.0	845.6
57.5°	1031.0	996.2	899.7	787.7	749.1
60°	919.0	868.8	787.7	691.2	660.3
62.5°	795.4	756.8	687.3	606.2	644.8
65°	683.5	644.8	583.1	594.6	494.2
67.5°	559.9	540.6	486.5	432.5	417.0
70°	455.6	432.5	413.2	355.2	339.8
72.5°	363.0	339.8	312.8	281.9	270.3
75°	274.2	254.8	239.4	227.8	251.0
77.5°	189.2	181.5	169.9	158.3	154.5
80°	123.6	119.7	115.8	112.0	108.1
82.5°	73.4	73.4	73.4	73.4	73.4
85°	38.6	42.5	46.3	50.2	54.1
87.5°	23.2	23.2	27.0	30.9	34.8
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)