

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: P546144

Luminaire Tested: **FMR-12-4-LD4-2HI-40-UNV-81-85-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: P546144
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-LD4-2HI-40-UNV-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

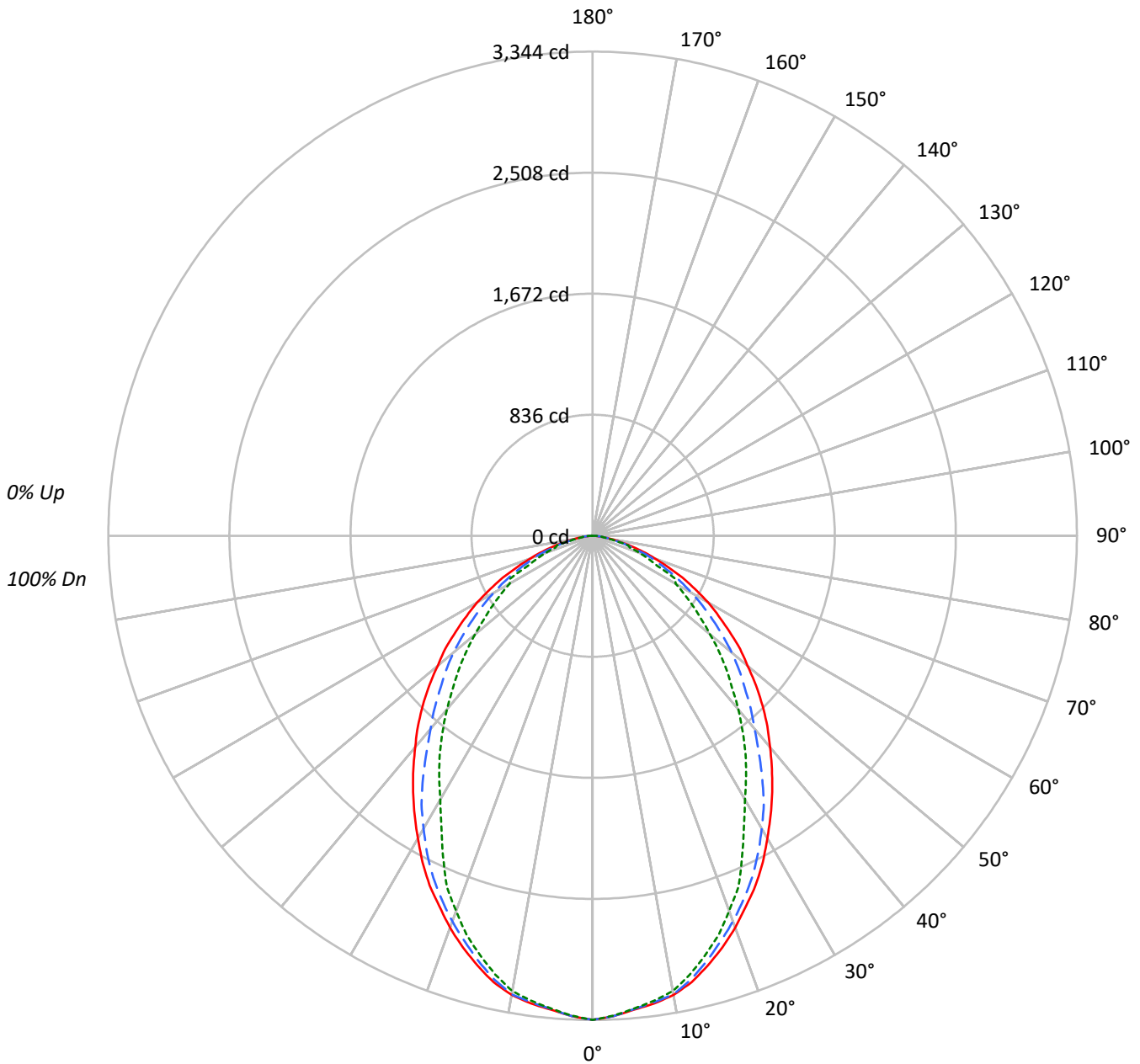
Lumens per Lamp: N/A
Luminaire Lumens: 6564.0 lumens
Efficiency: N/A
Efficacy: 76.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	8998	8998	8998
5°	8875	8865	8854
10°	8798	8788	8725
15°	8561	8475	8357
20°	8247	8114	7893
25°	7908	7736	7254
30°	7495	7255	6534
35°	7098	6705	6045
40°	6694	6111	5499
45°	6311	5649	4972
50°	5842	5243	4434
55°	5404	4751	3971
60°	4951	4244	3557
65°	4357	3717	3151
70°	3589	3254	2677
75°	2853	2492	2613
80°	1917	1798	1677
85°	1195	1433	1670



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.2	4.7
10°-20°	854.2	13.0
20°-30°	1182.6	18.0
30°-40°	1261.0	19.2
40°-50°	1150.4	17.5
50°-60°	901.2	13.7
60°-70°	587.4	8.9
70°-80°	260.2	4.0
80°-90°	55.9	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°	2348.0	35.8
0°-40°	3609.0	55.0
0°-60°	5660.5	86.2
0°-90°	6564.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6564.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3344	3344	3344	3344	3344	
5°	3286	3282	3282	3278	3278	312
15°	3073	3073	3042	3011	3000	864
25°	2663	2648	2605	2512	2443	1223
35°	2161	2145	2041	1886	1840	1351
45°	1658	1624	1484	1361	1306	1277
55°	1152	1117	1013	893	846	1033
65°	684	646	584	595	495	674
75°	274	255	240	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°	3343.6	3343.6	3343.6	3343.6	3343.6
2.5°	3320.4	3320.4	3320.4	3316.6	3316.6
5°	3285.6	3281.8	3281.8	3277.9	3277.9
7.5°	3258.6	3254.7	3250.8	3247.0	3239.2
10°	3219.9	3219.9	3216.1	3196.7	3192.9
12.5°	3158.1	3154.2	3138.7	3111.7	3104.0
15°	3073.0	3073.0	3042.1	3011.2	2999.6
17.5°	2980.3	2976.4	2937.7	2906.8	2891.4
20°	2879.8	2872.0	2833.4	2783.1	2756.1
22.5°	2767.7	2767.7	2721.3	2655.6	2628.5
25°	2663.3	2647.8	2605.3	2512.5	2443.0
27.5°	2543.5	2520.3	2473.9	2342.5	2261.3
30°	2412.0	2400.4	2334.7	2164.7	2102.8
32.5°	2288.3	2269.0	2199.4	2021.6	1971.4
35°	2160.8	2145.3	2041.0	1886.3	1840.0
37.5°	2033.2	2013.9	1882.5	1758.8	1700.8
40°	1905.7	1882.5	1739.5	1627.4	1565.5
42.5°	1785.8	1754.9	1615.8	1495.9	1426.4
45°	1658.3	1623.5	1484.3	1360.6	1306.5
47.5°	1530.7	1499.8	1372.2	1244.7	1182.8
50°	1395.4	1368.4	1252.4	1124.8	1059.1
52.5°	1283.3	1240.8	1128.7	1001.2	947.0
55°	1151.9	1117.1	1012.7	892.9	846.5
57.5°	1032.1	997.3	900.6	788.6	749.9
60°	920.0	869.7	788.6	691.9	661.0
62.5°	796.3	757.6	688.1	606.9	645.5
65°	684.2	645.5	583.7	595.3	494.8
67.5°	560.5	541.2	487.0	432.9	417.5
70°	456.1	432.9	413.6	355.6	340.2
72.5°	363.4	340.2	313.1	282.2	270.6
75°	274.4	255.1	239.7	228.1	251.3
77.5°	189.4	181.7	170.1	158.5	154.6
80°	123.7	119.8	116.0	112.1	108.2
82.5°	73.4	73.4	73.4	73.4	73.4
85°	38.7	42.5	46.4	50.3	54.1
87.5°	23.2	23.2	27.1	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)