

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: P546131

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-93-88-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: P546131
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-35-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

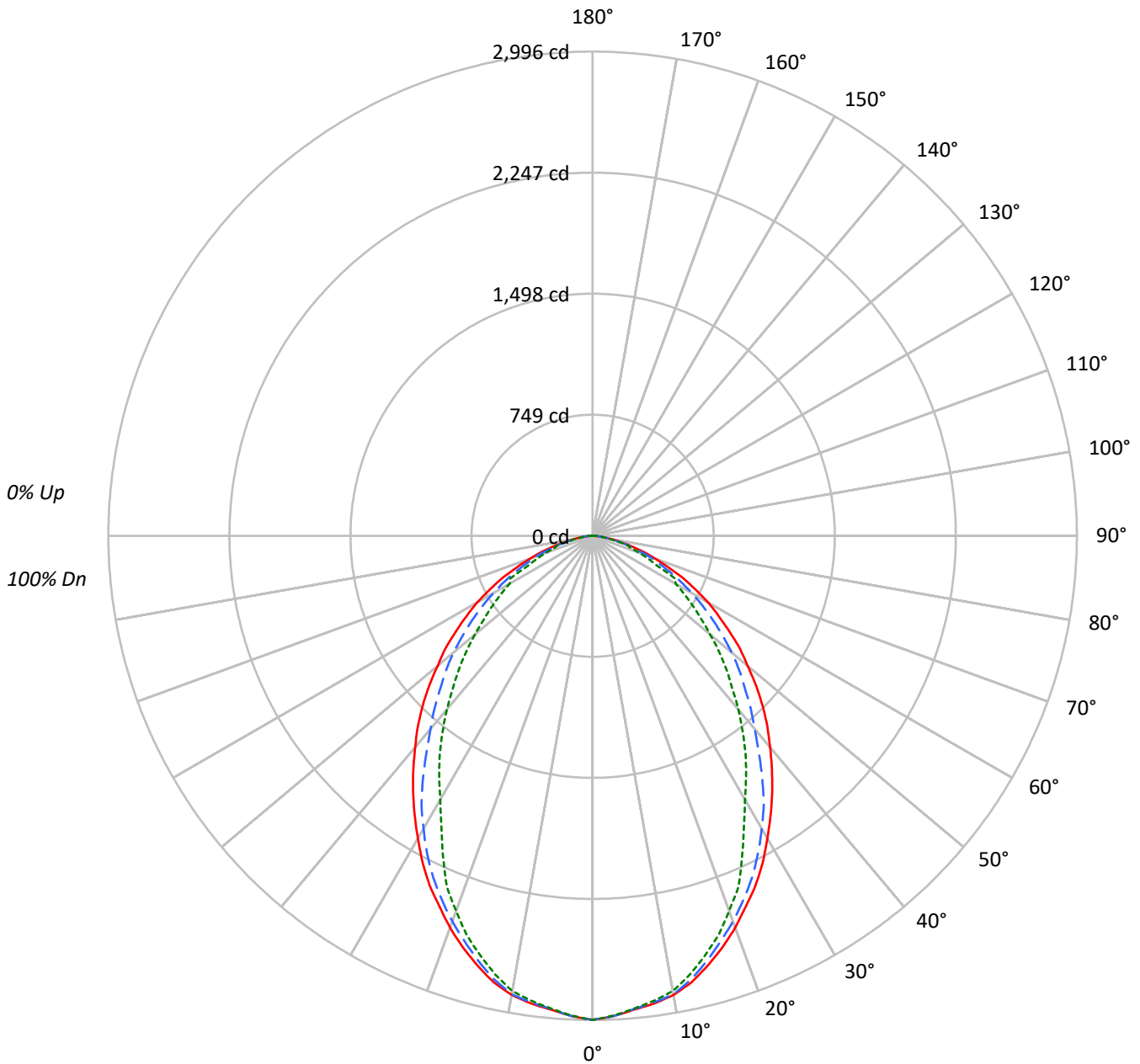
Lumens per Lamp: N/A
Luminaire Lumens: 5881.0 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V): NR
Input Current (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								
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°	8061	8061	8061
5°	7952	7943	7933
10°	7883	7873	7817
15°	7670	7593	7487
20°	7389	7270	7071
25°	7085	6931	6499
30°	6715	6500	5854
35°	6360	6007	5415
40°	5998	5475	4927
45°	5654	5061	4455
50°	5234	4698	3972
55°	4842	4257	3558
60°	4436	3802	3187
65°	3903	3330	2823
70°	3216	2916	2398
75°	2557	2232	2340
80°	1717	1610	1503
85°	1068	1284	1497



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.9	4.7
10°-20°	765.3	13.0
20°-30°	1059.5	18.0
30°-40°	1129.8	19.2
40°-50°	1030.7	17.5
50°-60°	807.4	13.7
60°-70°	526.3	8.9
70°-80°	233.2	4.0
80°-90°	50.1	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°	2103.7	35.8
0°-40°	3233.4	55.0
0°-60°	5071.6	86.2
0°-90°	5881.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5881.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2996	2996	2996	2996	2996	
5°	2944	2940	2940	2937	2937	279
15°	2753	2753	2726	2698	2688	774
25°	2386	2372	2334	2251	2189	1095
35°	1936	1922	1829	1690	1648	1210
45°	1486	1455	1330	1219	1171	1144
55°	1032	1001	907	800	758	926
65°	613	578	523	533	443	604
75°	246	229	215	204	225	264
85°	35	38	42	45	48	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2995.7	2995.7	2995.7	2995.7	2995.7
2.5°	2974.9	2974.9	2974.9	2971.5	2971.5
5°	2943.8	2940.3	2940.3	2936.8	2936.8
7.5°	2919.5	2916.0	2912.6	2909.1	2902.2
10°	2884.9	2884.9	2881.4	2864.1	2860.6
12.5°	2829.5	2826.0	2812.2	2787.9	2781.0
15°	2753.3	2753.3	2725.6	2697.9	2687.5
17.5°	2670.2	2666.7	2632.1	2604.4	2590.5
20°	2580.1	2573.2	2538.6	2493.5	2469.3
22.5°	2479.7	2479.7	2438.1	2379.2	2355.0
25°	2386.2	2372.3	2334.2	2251.1	2188.8
27.5°	2278.8	2258.0	2216.5	2098.7	2026.0
30°	2161.1	2150.7	2091.8	1939.4	1884.0
32.5°	2050.2	2032.9	1970.6	1811.3	1766.3
35°	1936.0	1922.1	1828.6	1690.1	1648.5
37.5°	1821.7	1804.3	1686.6	1575.8	1523.8
40°	1707.4	1686.6	1558.5	1458.0	1402.6
42.5°	1600.0	1572.3	1447.6	1340.3	1277.9
45°	1485.7	1454.6	1329.9	1219.1	1170.6
47.5°	1371.4	1343.7	1229.5	1115.2	1059.8
50°	1250.2	1226.0	1122.1	1007.8	948.9
52.5°	1149.8	1111.7	1011.3	897.0	848.5
55°	1032.0	1000.9	907.4	800.0	758.4
57.5°	924.7	893.5	806.9	706.5	671.9
60°	824.3	779.2	706.5	619.9	592.2
62.5°	713.4	678.8	616.5	543.7	578.4
65°	613.0	578.4	522.9	533.3	443.3
67.5°	502.2	484.9	436.4	387.9	374.0
70°	408.7	387.9	370.6	318.6	304.8
72.5°	325.5	304.8	280.5	252.8	242.4
75°	245.9	228.6	214.7	204.3	225.1
77.5°	169.7	162.8	152.4	142.0	138.5
80°	110.8	107.4	103.9	100.4	97.0
82.5°	65.8	65.8	65.8	65.8	65.8
85°	34.6	38.1	41.6	45.0	48.5
87.5°	20.8	20.8	24.2	27.7	31.2
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)