

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: P546912

Luminaire Tested: **FMR-24-4-LD4-2STD-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: P546912
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-81-85-EDD
Description: 2X4 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

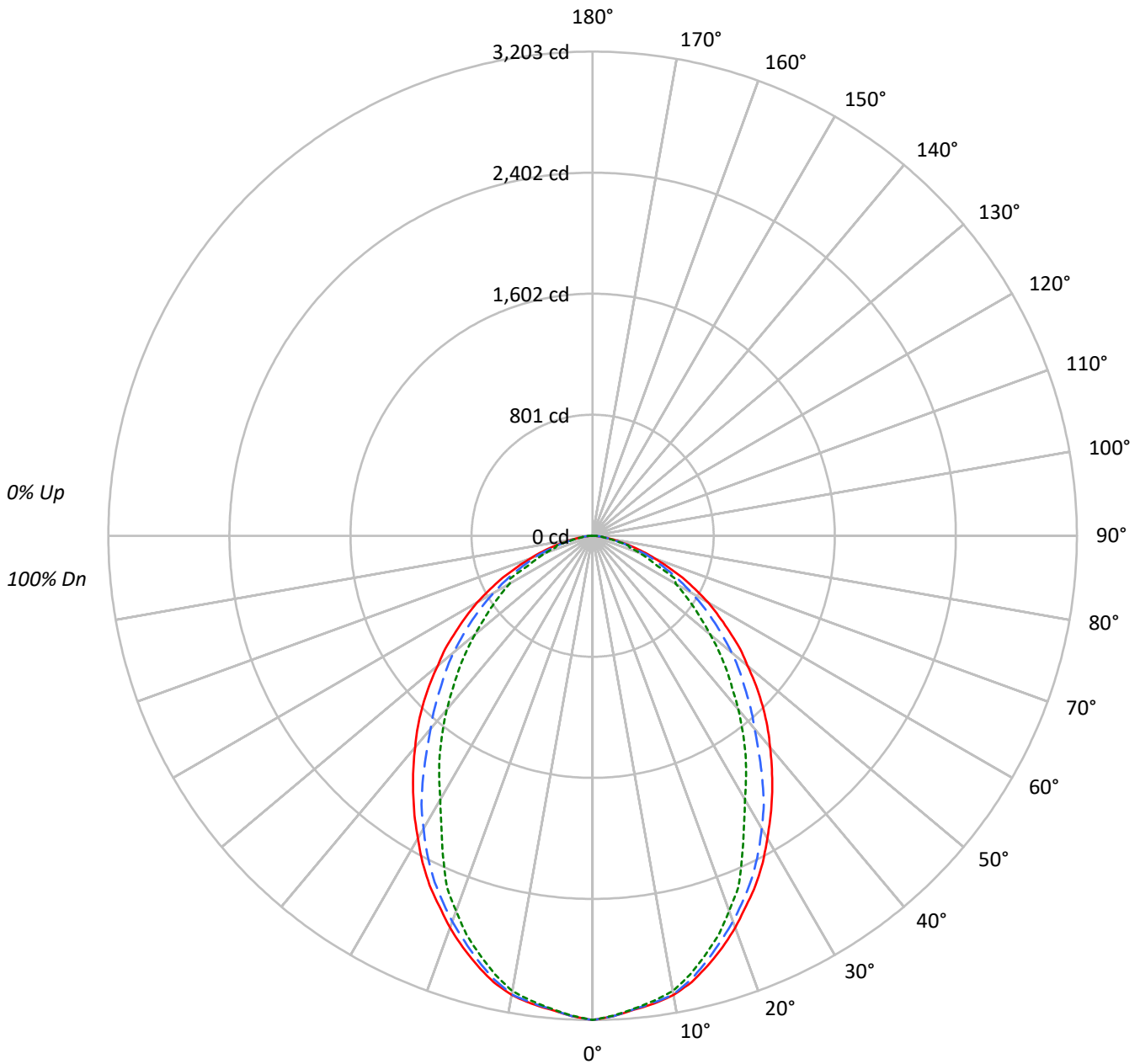
Lumens per Lamp: N/A
Luminaire Lumens: 6288.0 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	4310	4310	4310
5°	4251	4246	4241
10°	4214	4209	4179
15°	4101	4059	4003
20°	3950	3886	3780
25°	3788	3705	3474
30°	3590	3475	3130
35°	3400	3211	2895
40°	3206	2927	2634
45°	3023	2706	2382
50°	2798	2511	2124
55°	2589	2276	1902
60°	2372	2033	1704
65°	2087	1780	1509
70°	1719	1559	1282
75°	1367	1194	1251
80°	918	861	804
85°	571	685	800



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.2	4.7
10°-20°	818.3	13.0
20°-30°	1132.8	18.0
30°-40°	1207.9	19.2
40°-50°	1102.0	17.5
50°-60°	863.3	13.7
60°-70°	562.7	8.9
70°-80°	249.3	4.0
80°-90°	53.5	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°	2249.3	35.8
0°-40°	3457.2	55.0
0°-60°	5422.5	86.2
0°-90°	6288.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6288.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3203	3203	3203	3203	3203	
5°	3148	3144	3144	3140	3140	299
15°	2944	2944	2914	2885	2874	828
25°	2551	2536	2496	2407	2340	1171
35°	2070	2055	1955	1807	1763	1294
45°	1589	1555	1422	1303	1252	1224
55°	1104	1070	970	855	811	990
65°	655	618	559	570	474	646
75°	263	244	230	218	241	282
85°	37	41	44	48	52	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3203.0	3203.0	3203.0	3203.0	3203.0
2.5°	3180.8	3180.8	3180.8	3177.1	3177.1
5°	3147.5	3143.8	3143.8	3140.1	3140.1
7.5°	3121.6	3117.9	3114.2	3110.5	3103.0
10°	3084.5	3084.5	3080.8	3062.3	3058.6
12.5°	3025.3	3021.6	3006.8	2980.8	2973.4
15°	2943.8	2943.8	2914.2	2884.6	2873.5
17.5°	2854.9	2851.2	2814.2	2784.6	2769.8
20°	2758.7	2751.3	2714.2	2666.1	2640.2
22.5°	2651.3	2651.3	2606.9	2543.9	2518.0
25°	2551.3	2536.5	2495.8	2406.9	2340.2
27.5°	2436.5	2414.3	2369.9	2244.0	2166.2
30°	2310.6	2299.5	2236.6	2073.6	2014.4
32.5°	2192.1	2173.6	2107.0	1936.6	1888.5
35°	2069.9	2055.1	1955.1	1807.0	1762.6
37.5°	1947.7	1929.2	1803.3	1684.8	1629.3
40°	1825.5	1803.3	1666.3	1558.9	1499.7
42.5°	1710.7	1681.1	1547.8	1433.0	1366.4
45°	1588.6	1555.2	1421.9	1303.4	1251.6
47.5°	1466.4	1436.7	1314.5	1192.3	1133.1
50°	1336.8	1310.8	1199.7	1077.5	1014.6
52.5°	1229.4	1188.6	1081.3	959.1	907.2
55°	1103.5	1070.1	970.2	855.4	810.9
57.5°	988.7	955.4	862.8	755.4	718.4
60°	881.3	833.2	755.4	662.8	633.2
62.5°	762.8	725.8	659.1	581.4	618.4
65°	655.4	618.4	559.1	570.2	474.0
67.5°	536.9	518.4	466.6	414.7	399.9
70°	436.9	414.7	396.2	340.7	325.9
72.5°	348.1	325.9	299.9	270.3	259.2
75°	262.9	244.4	229.6	218.5	240.7
77.5°	181.4	174.0	162.9	151.8	148.1
80°	118.5	114.8	111.1	107.4	103.7
82.5°	70.4	70.4	70.4	70.4	70.4
85°	37.0	40.7	44.4	48.1	51.8
87.5°	22.2	22.2	25.9	29.6	33.3
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)