

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: P546309

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-81-96-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: P546309
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-LD4-2STD-35-UNV-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

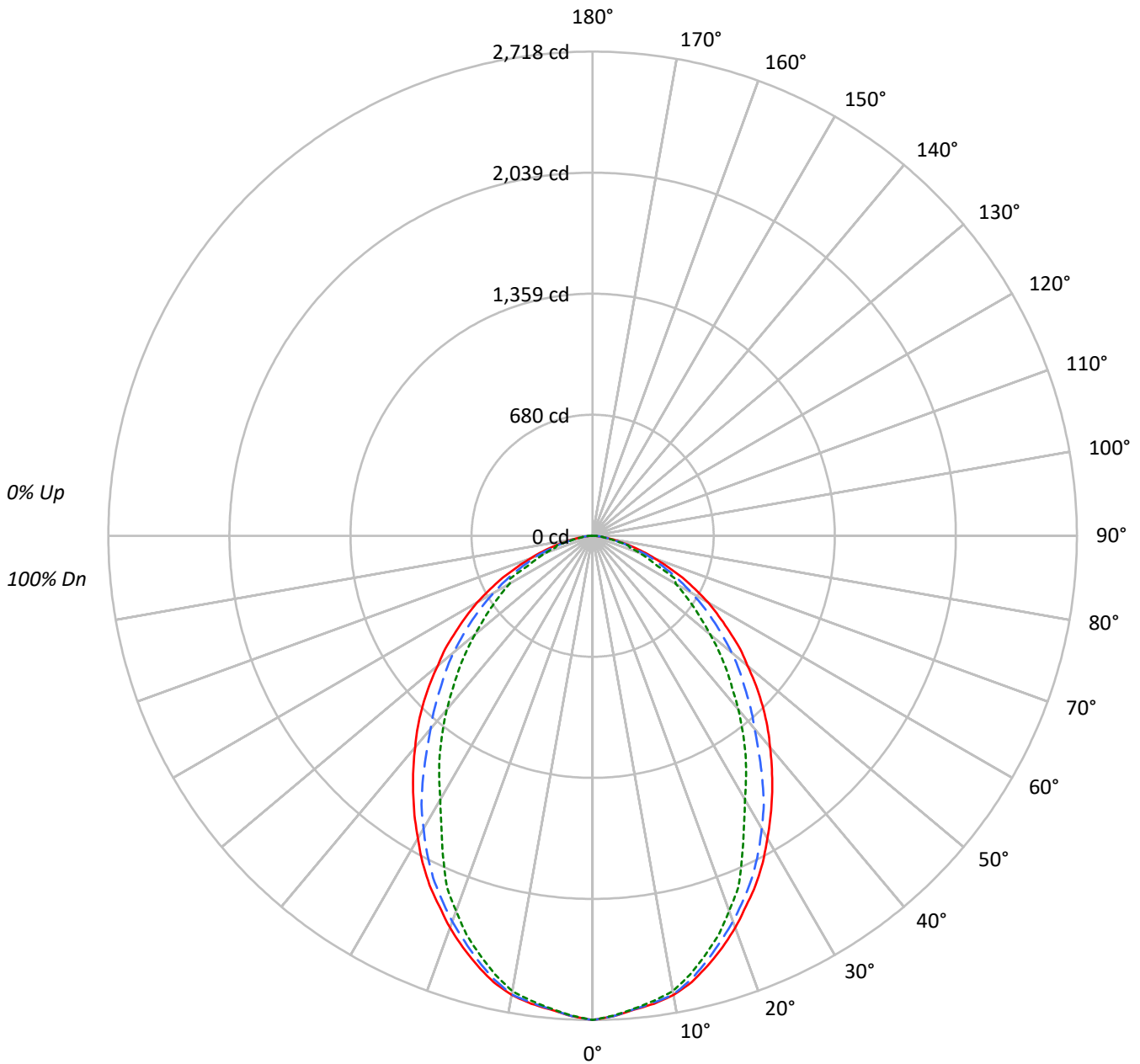
Lumens per Lamp: N/A
Luminaire Lumens: 5336.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	7314	7314	7314
5°	7215	7206	7198
10°	7152	7144	7092
15°	6959	6890	6793
20°	6704	6596	6416
25°	6428	6288	5896
30°	6093	5897	5312
35°	5770	5450	4913
40°	5442	4967	4470
45°	5130	4592	4042
50°	4749	4262	3605
55°	4393	3863	3229
60°	4025	3450	2892
65°	3542	3021	2561
70°	2917	2645	2175
75°	2320	2025	2123
80°	1559	1461	1364
85°	969	1164	1359



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.0	4.7
10°-20°	694.4	13.0
20°-30°	961.3	18.0
30°-40°	1025.0	19.2
40°-50°	935.1	17.5
50°-60°	732.6	13.7
60°-70°	477.5	8.9
70°-80°	211.5	4.0
80°-90°	45.4	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°	1908.7	35.8
0°-40°	2933.8	55.0
0°-60°	4601.5	86.2
0°-90°	5336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5336.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2718	2718	2718	2718	2718	
5°	2671	2668	2668	2665	2665	254
15°	2498	2498	2473	2448	2438	702
25°	2165	2152	2118	2042	1986	994
35°	1756	1744	1659	1533	1496	1098
45°	1348	1320	1207	1106	1062	1038
55°	936	908	823	726	688	840
65°	556	525	474	484	402	548
75°	223	207	195	185	204	239
85°	31	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2718.1	2718.1	2718.1	2718.1	2718.1
2.5°	2699.2	2699.2	2699.2	2696.1	2696.1
5°	2671.0	2667.8	2667.8	2664.7	2664.7
7.5°	2649.0	2645.8	2642.7	2639.5	2633.2
10°	2617.5	2617.5	2614.4	2598.7	2595.5
12.5°	2567.3	2564.1	2551.5	2529.5	2523.3
15°	2498.1	2498.1	2473.0	2447.8	2438.4
17.5°	2422.7	2419.6	2388.1	2363.0	2350.4
20°	2341.0	2334.7	2303.3	2262.5	2240.5
22.5°	2249.9	2249.9	2212.2	2158.8	2136.8
25°	2165.0	2152.5	2117.9	2042.5	1985.9
27.5°	2067.6	2048.8	2011.1	1904.2	1838.2
30°	1960.8	1951.4	1897.9	1759.7	1709.4
32.5°	1860.2	1844.5	1788.0	1643.4	1602.6
35°	1756.5	1744.0	1659.1	1533.4	1495.7
37.5°	1652.8	1637.1	1530.3	1429.7	1382.6
40°	1549.2	1530.3	1414.0	1322.9	1272.6
42.5°	1451.7	1426.6	1313.5	1216.1	1159.5
45°	1348.0	1319.8	1206.6	1106.1	1062.1
47.5°	1244.3	1219.2	1115.5	1011.8	961.5
50°	1134.4	1112.4	1018.1	914.4	861.0
52.5°	1043.2	1008.7	917.6	813.9	769.9
55°	936.4	908.1	823.3	725.9	688.2
57.5°	839.0	810.7	732.2	641.0	609.6
60°	747.9	707.0	641.0	562.5	537.3
62.5°	647.3	615.9	559.3	493.3	524.8
65°	556.2	524.8	474.5	483.9	402.2
67.5°	455.6	439.9	395.9	351.9	339.4
70°	370.8	351.9	336.2	289.1	276.5
72.5°	295.4	276.5	254.5	229.4	220.0
75°	223.1	207.4	194.8	185.4	204.2
77.5°	154.0	147.7	138.3	128.8	125.7
80°	100.6	97.4	94.3	91.1	88.0
82.5°	59.7	59.7	59.7	59.7	59.7
85°	31.4	34.6	37.7	40.8	44.0
87.5°	18.9	18.9	22.0	25.1	28.3
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)