

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: P546354

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-93-87-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: P546354
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-40-UNV-93-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

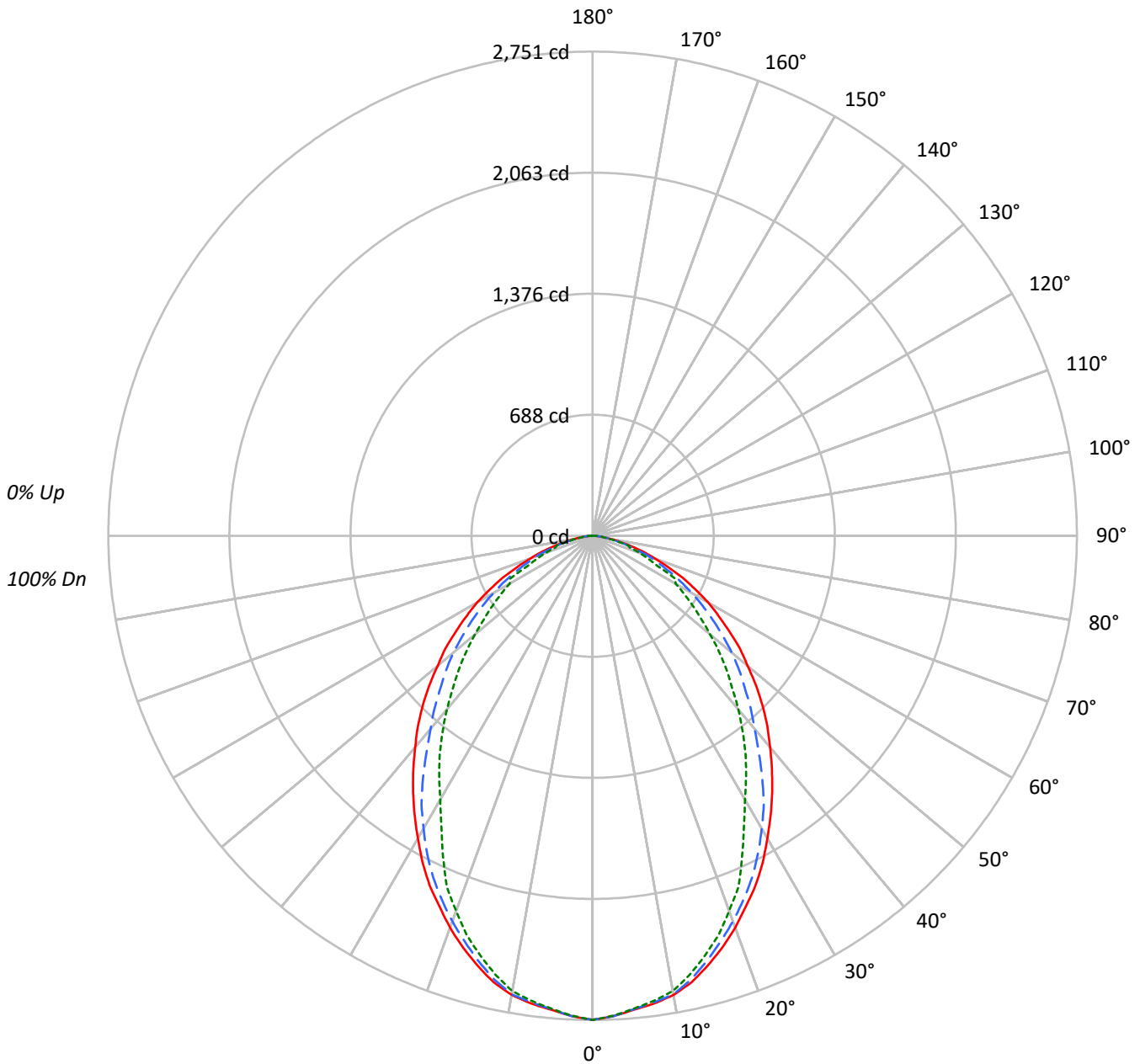
Lumens per Lamp: N/A
Luminaire Lumens: 5400.0 lumens
Efficiency: N/A
Efficacy: 81.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	7402	7402	7402
5°	7302	7293	7284
10°	7238	7229	7177
15°	7043	6972	6875
20°	6784	6675	6493
25°	6505	6364	5967
30°	6166	5968	5375
35°	5840	5516	4973
40°	5507	5027	4524
45°	5192	4647	4090
50°	4806	4313	3648
55°	4446	3909	3267
60°	4073	3491	2927
65°	3584	3058	2592
70°	2952	2677	2201
75°	2348	2050	2149
80°	1578	1478	1379
85°	982	1179	1374



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.1	4.7
10°-20°	702.7	13.0
20°-30°	972.9	18.0
30°-40°	1037.4	19.2
40°-50°	946.4	17.5
50°-60°	741.4	13.7
60°-70°	483.2	8.9
70°-80°	214.1	4.0
80°-90°	46.0	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°	1931.6	35.8
0°-40°	2969.0	55.0
0°-60°	4656.8	86.2
0°-90°	5400.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5400.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2751	2751	2751	2751	2751	
5°	2703	2700	2700	2697	2697	257
15°	2528	2528	2503	2477	2468	711
25°	2191	2178	2143	2067	2010	1006
35°	1778	1765	1679	1552	1514	1111
45°	1364	1336	1221	1119	1075	1051
55°	948	919	833	735	696	850
65°	563	531	480	490	407	555
75°	226	210	197	188	207	242
85°	32	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°	2750.7	2750.7	2750.7	2750.7	2750.7
2.5°	2731.6	2731.6	2731.6	2728.4	2728.4
5°	2703.0	2699.8	2699.8	2696.6	2696.6
7.5°	2680.7	2677.5	2674.4	2671.2	2664.8
10°	2648.9	2648.9	2645.7	2629.8	2626.7
12.5°	2598.0	2594.9	2582.1	2559.9	2553.5
15°	2528.1	2528.1	2502.6	2477.2	2467.7
17.5°	2451.8	2448.6	2416.8	2391.3	2378.6
20°	2369.1	2362.7	2330.9	2289.6	2267.3
22.5°	2276.9	2276.9	2238.7	2184.7	2162.4
25°	2191.0	2178.3	2143.3	2067.0	2009.8
27.5°	2092.4	2073.4	2035.2	1927.1	1860.3
30°	1984.3	1974.8	1920.7	1780.8	1729.9
32.5°	1882.6	1866.7	1809.4	1663.1	1621.8
35°	1777.6	1764.9	1679.0	1551.8	1513.7
37.5°	1672.7	1656.8	1548.7	1446.9	1399.2
40°	1567.7	1548.7	1431.0	1338.8	1287.9
42.5°	1469.2	1443.7	1329.2	1230.7	1173.4
45°	1364.2	1335.6	1221.1	1119.4	1074.8
47.5°	1259.3	1233.8	1128.9	1024.0	973.1
50°	1148.0	1125.7	1030.3	925.4	871.3
52.5°	1055.8	1020.8	928.6	823.6	779.1
55°	947.6	919.0	833.2	734.6	696.4
57.5°	849.1	820.4	740.9	648.7	616.9
60°	756.8	715.5	648.7	569.2	543.8
62.5°	655.1	623.3	566.0	499.3	531.1
65°	562.9	531.1	480.2	489.7	407.0
67.5°	461.1	445.2	400.7	356.2	343.4
70°	375.2	356.2	340.3	292.6	279.8
72.5°	298.9	279.8	257.6	232.1	222.6
75°	225.8	209.9	197.2	187.6	206.7
77.5°	155.8	149.5	139.9	130.4	127.2
80°	101.8	98.6	95.4	92.2	89.0
82.5°	60.4	60.4	60.4	60.4	60.4
85°	31.8	35.0	38.2	41.3	44.5
87.5°	19.1	19.1	22.3	25.4	28.6
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)