

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: P546355

Luminaire Tested: **FMR-12-4-LD4-2STD-40-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: P546355
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-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

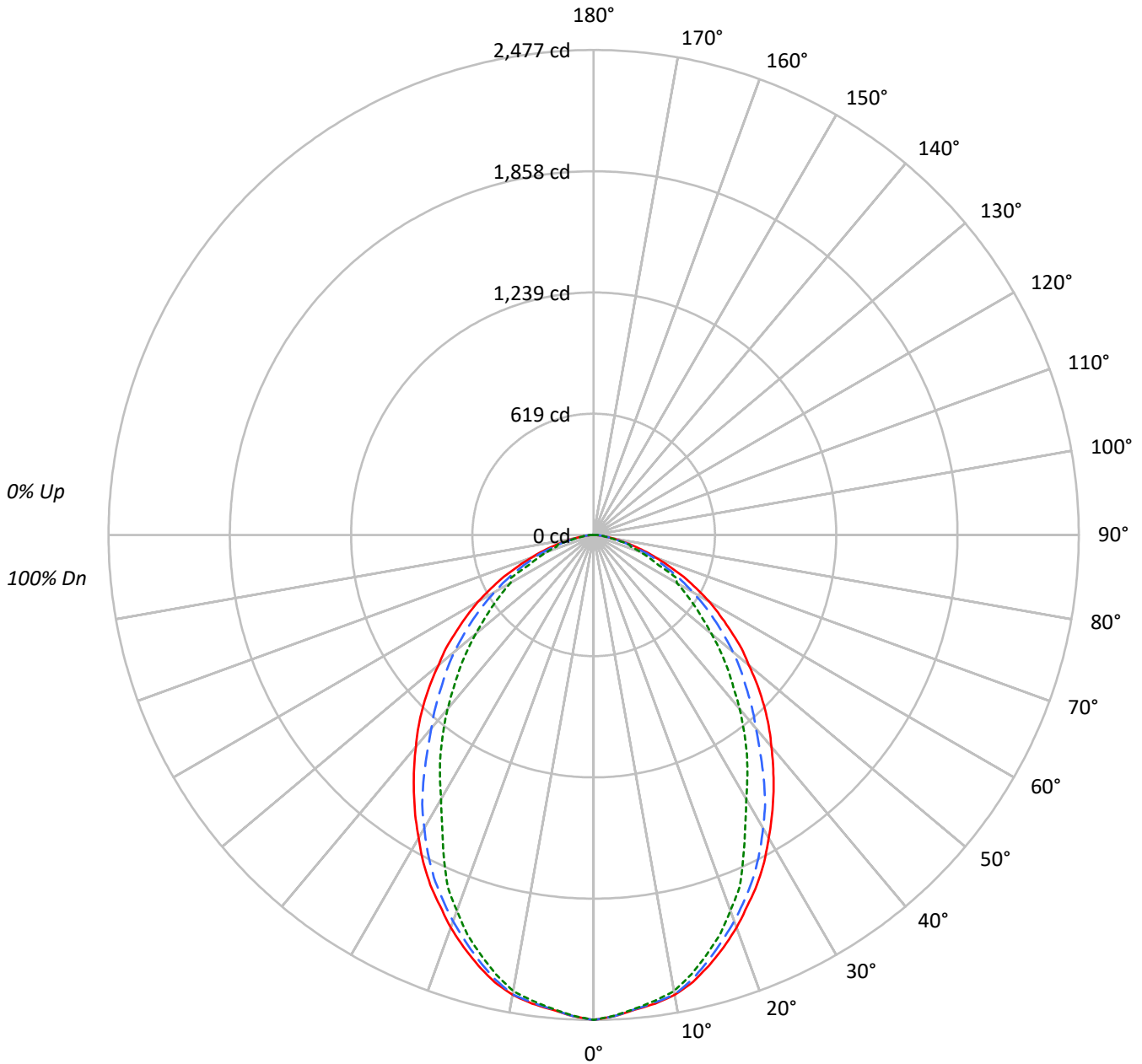
Lumens per Lamp: N/A
Luminaire Lumens: 4863.0 lumens
Efficiency: N/A
Efficacy: 73.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	6666	6666	6666
5°	6575	6568	6560
10°	6518	6510	6464
15°	6343	6279	6191
20°	6110	6011	5847
25°	5858	5731	5374
30°	5553	5375	4841
35°	5259	4967	4478
40°	4959	4527	4074
45°	4676	4185	3683
50°	4328	3885	3285
55°	4004	3520	2943
60°	3668	3144	2636
65°	3228	2753	2334
70°	2659	2411	1983
75°	2114	1847	1935
80°	1420	1331	1243
85°	883	1062	1238



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.6	4.7
10°-20°	632.8	13.0
20°-30°	876.1	18.0
30°-40°	934.2	19.2
40°-50°	852.2	17.5
50°-60°	667.7	13.7
60°-70°	435.1	8.9
70°-80°	192.8	4.0
80°-90°	41.4	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°	1739.5	35.8
0°-40°	2673.7	55.0
0°-60°	4193.6	86.2
0°-90°	4863.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4863.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2477	2477	2477	2477	2477	
5°	2434	2431	2431	2428	2428	231
15°	2277	2277	2254	2231	2222	640
25°	1973	1962	1930	1861	1810	906
35°	1601	1589	1512	1398	1363	1001
45°	1229	1203	1100	1008	968	946
55°	853	828	750	662	627	765
65°	507	478	432	441	367	500
75°	203	189	178	169	186	218
85°	29	32	34	37	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2477.1	2477.1	2477.1	2477.1	2477.1
2.5°	2460.0	2460.0	2460.0	2457.1	2457.1
5°	2434.2	2431.3	2431.3	2428.5	2428.5
7.5°	2414.1	2411.3	2408.4	2405.6	2399.8
10°	2385.5	2385.5	2382.6	2368.3	2365.5
12.5°	2339.7	2336.8	2325.4	2305.3	2299.6
15°	2276.7	2276.7	2253.8	2230.9	2222.3
17.5°	2208.0	2205.1	2176.5	2153.5	2142.1
20°	2133.5	2127.8	2099.1	2061.9	2041.9
22.5°	2050.4	2050.4	2016.1	1967.4	1947.4
25°	1973.1	1961.7	1930.2	1861.4	1809.9
27.5°	1884.4	1867.2	1832.8	1735.4	1675.3
30°	1787.0	1778.4	1729.7	1603.7	1557.9
32.5°	1695.3	1681.0	1629.5	1497.7	1460.5
35°	1600.8	1589.4	1512.1	1397.5	1363.1
37.5°	1506.3	1492.0	1394.6	1303.0	1260.1
40°	1411.8	1394.6	1288.7	1205.6	1159.8
42.5°	1323.1	1300.1	1197.0	1108.3	1056.7
45°	1228.6	1202.8	1099.7	1008.0	967.9
47.5°	1134.0	1111.1	1016.6	922.1	876.3
50°	1033.8	1013.8	927.9	833.4	784.7
52.5°	950.8	919.3	836.2	741.7	701.6
55°	853.4	827.6	750.3	661.5	627.2
57.5°	764.6	738.8	667.3	584.2	555.6
60°	681.6	644.3	584.2	512.6	489.7
62.5°	589.9	561.3	509.7	449.6	478.2
65°	506.9	478.2	432.4	441.0	366.6
67.5°	415.2	400.9	360.8	320.7	309.3
70°	337.9	320.7	306.4	263.5	252.0
72.5°	269.2	252.0	232.0	209.1	200.5
75°	203.3	189.0	177.6	169.0	186.1
77.5°	140.3	134.6	126.0	117.4	114.6
80°	91.6	88.8	85.9	83.0	80.2
82.5°	54.4	54.4	54.4	54.4	54.4
85°	28.6	31.5	34.4	37.2	40.1
87.5°	17.2	17.2	20.0	22.9	25.8
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)