

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: P546230

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-93-97-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: P546230
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-LD4-2LO-35-UNV-93-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

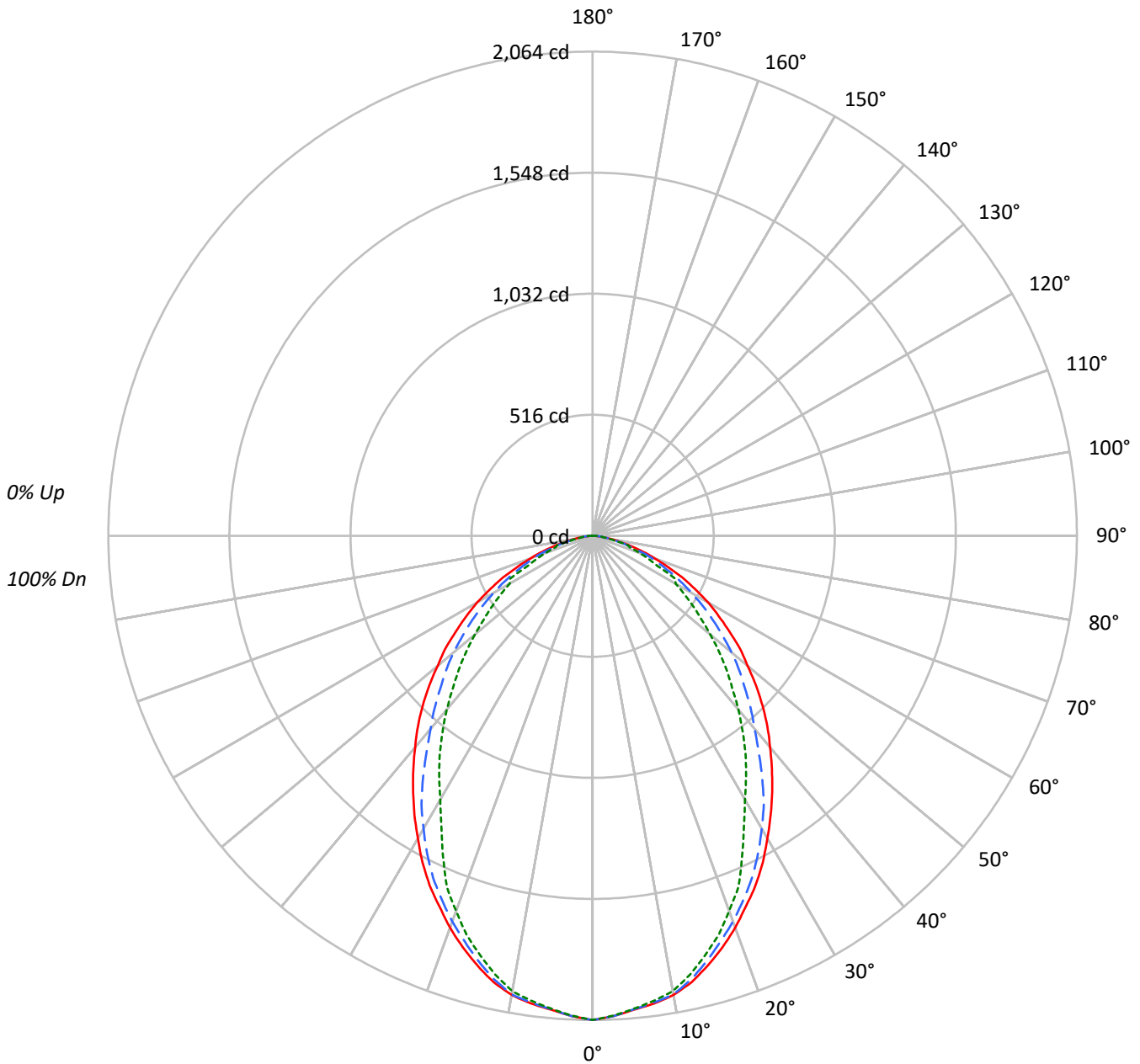
Lumens per Lamp: N/A
Luminaire Lumens: 4052.0 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5554	5554	5554
5°	5479	5472	5466
10°	5431	5425	5386
15°	5285	5232	5159
20°	5091	5009	4872
25°	4882	4775	4478
30°	4627	4478	4034
35°	4382	4139	3731
40°	4132	3772	3395
45°	3896	3487	3069
50°	3606	3237	2737
55°	3336	2933	2452
60°	3056	2620	2196
65°	2690	2294	1945
70°	2216	2009	1652
75°	1761	1538	1613
80°	1184	1110	1035
85°	738	883	1031



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.1	4.7
10°-20°	527.3	13.0
20°-30°	730.0	18.0
30°-40°	778.4	19.2
40°-50°	710.1	17.5
50°-60°	556.3	13.7
60°-70°	362.6	8.9
70°-80°	160.6	4.0
80°-90°	34.5	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°	1449.4	35.8
0°-40°	2227.8	55.0
0°-60°	3494.3	86.2
0°-90°	4052.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4052.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2064	2064	2064	2064	2064	
5°	2028	2026	2026	2024	2024	193
15°	1897	1897	1878	1859	1852	533
25°	1644	1634	1608	1551	1508	755
35°	1334	1324	1260	1164	1136	834
45°	1024	1002	916	840	806	789
55°	711	690	625	551	523	638
65°	422	398	360	368	305	416
75°	169	158	148	141	155	182
85°	24	26	29	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2064.0	2064.0	2064.0	2064.0	2064.0
2.5°	2049.7	2049.7	2049.7	2047.3	2047.3
5°	2028.2	2025.9	2025.9	2023.5	2023.5
7.5°	2011.5	2009.2	2006.8	2004.4	1999.6
10°	1987.7	1987.7	1985.3	1973.4	1971.0
12.5°	1949.5	1947.1	1937.6	1920.9	1916.1
15°	1897.0	1897.0	1877.9	1858.8	1851.7
17.5°	1839.7	1837.3	1813.5	1794.4	1784.9
20°	1777.7	1772.9	1749.1	1718.0	1701.3
22.5°	1708.5	1708.5	1679.9	1639.3	1622.6
25°	1644.1	1634.5	1608.3	1551.0	1508.1
27.5°	1570.1	1555.8	1527.1	1446.0	1395.9
30°	1489.0	1481.8	1441.2	1336.3	1298.1
32.5°	1412.6	1400.7	1357.7	1248.0	1216.9
35°	1333.9	1324.3	1259.9	1164.4	1135.8
37.5°	1255.1	1243.2	1162.1	1085.7	1049.9
40°	1176.4	1162.1	1073.8	1004.6	966.4
42.5°	1102.4	1083.3	997.4	923.4	880.5
45°	1023.7	1002.2	916.3	839.9	806.5
47.5°	944.9	925.8	847.1	768.3	730.2
50°	861.4	844.7	773.1	694.4	653.8
52.5°	792.2	766.0	696.8	618.0	584.6
55°	711.1	689.6	625.2	551.2	522.6
57.5°	637.1	615.6	556.0	486.8	462.9
60°	567.9	536.9	486.8	427.1	408.0
62.5°	491.6	467.7	424.7	374.6	398.5
65°	422.4	398.5	360.3	367.5	305.4
67.5°	346.0	334.1	300.7	267.3	257.7
70°	281.6	267.3	255.3	219.5	210.0
72.5°	224.3	210.0	193.3	174.2	167.0
75°	169.4	157.5	147.9	140.8	155.1
77.5°	116.9	112.1	105.0	97.8	95.4
80°	76.4	74.0	71.6	69.2	66.8
82.5°	45.3	45.3	45.3	45.3	45.3
85°	23.9	26.2	28.6	31.0	33.4
87.5°	14.3	14.3	16.7	19.1	21.5
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)