

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: P546293

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-93-96-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: P546293
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-50-UNV-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

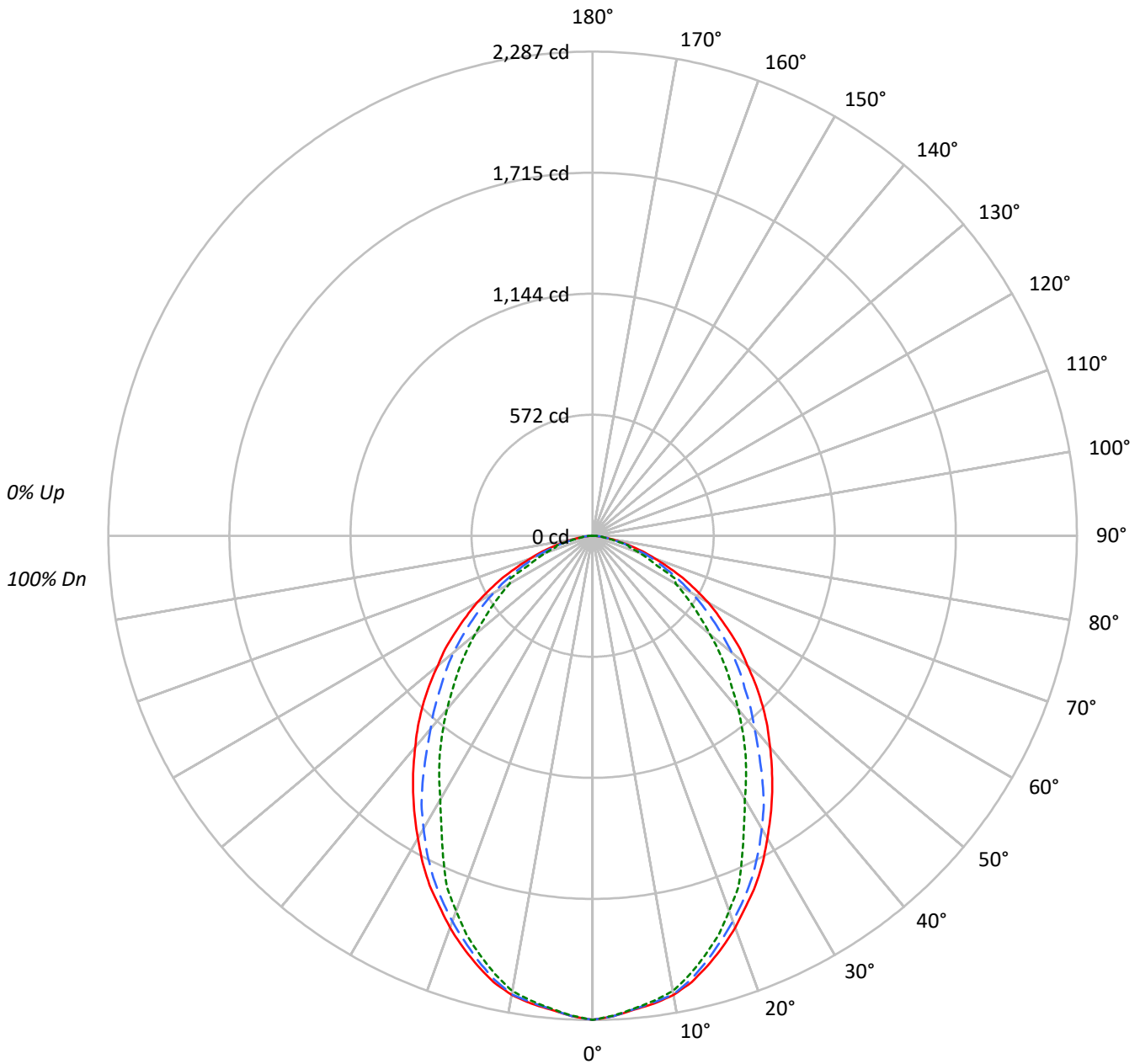
Lumens per Lamp: N/A
Luminaire Lumens: 4489.0 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	6153	6153	6153
5°	6070	6062	6055
10°	6017	6010	5966
15°	5855	5796	5715
20°	5640	5549	5397
25°	5408	5290	4961
30°	5126	4961	4469
35°	4854	4585	4134
40°	4578	4179	3761
45°	4316	3863	3400
50°	3995	3586	3032
55°	3696	3249	2716
60°	3386	2902	2433
65°	2979	2542	2155
70°	2454	2226	1830
75°	1952	1704	1786
80°	1311	1229	1147
85°	815	979	1142



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.9	4.7
10°-20°	584.2	13.0
20°-30°	808.7	18.0
30°-40°	862.3	19.2
40°-50°	786.7	17.5
50°-60°	616.3	13.7
60°-70°	401.7	8.9
70°-80°	178.0	4.0
80°-90°	38.2	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°	1605.7	35.8
0°-40°	2468.1	55.0
0°-60°	3871.1	86.2
0°-90°	4489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4489.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2287	2287	2287	2287	2287	
5°	2247	2244	2244	2242	2242	213
15°	2102	2102	2080	2059	2051	591
25°	1821	1811	1782	1718	1671	836
35°	1478	1467	1396	1290	1258	924
45°	1134	1110	1015	930	894	874
55°	788	764	693	611	579	707
65°	468	442	399	407	338	461
75°	188	174	164	156	172	201
85°	26	29	32	34	37	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2286.6	2286.6	2286.6	2286.6	2286.6
2.5°	2270.8	2270.8	2270.8	2268.1	2268.1
5°	2247.0	2244.3	2244.3	2241.7	2241.7
7.5°	2228.5	2225.8	2223.2	2220.5	2215.3
10°	2202.0	2202.0	2199.4	2186.2	2183.5
12.5°	2159.7	2157.1	2146.5	2128.0	2122.7
15°	2101.6	2101.6	2080.4	2059.3	2051.4
17.5°	2038.1	2035.5	2009.1	1987.9	1977.3
20°	1969.4	1964.1	1937.7	1903.3	1884.8
22.5°	1892.8	1892.8	1861.0	1816.1	1797.6
25°	1821.4	1810.8	1781.7	1718.3	1670.7
27.5°	1739.4	1723.6	1691.8	1602.0	1546.5
30°	1649.6	1641.6	1596.7	1480.4	1438.1
32.5°	1565.0	1551.7	1504.2	1382.6	1348.2
35°	1477.7	1467.1	1395.8	1290.0	1258.3
37.5°	1390.5	1377.3	1287.4	1202.8	1163.1
40°	1303.3	1287.4	1189.6	1112.9	1070.6
42.5°	1221.3	1200.2	1105.0	1023.0	975.5
45°	1134.1	1110.3	1015.1	930.5	893.5
47.5°	1046.8	1025.7	938.4	851.2	808.9
50°	954.3	935.8	856.5	769.3	724.3
52.5°	877.6	848.6	771.9	684.7	647.7
55°	787.8	764.0	692.6	610.7	578.9
57.5°	705.8	682.0	615.9	539.3	512.8
60°	629.2	594.8	539.3	473.2	452.0
62.5°	544.6	518.1	470.5	415.0	441.5
65°	467.9	441.5	399.2	407.1	338.4
67.5°	383.3	370.1	333.1	296.1	285.5
70°	311.9	296.1	282.9	243.2	232.6
72.5°	248.5	232.6	214.1	193.0	185.0
75°	187.7	174.5	163.9	156.0	171.8
77.5°	129.5	124.2	116.3	108.4	105.7
80°	84.6	81.9	79.3	76.7	74.0
82.5°	50.2	50.2	50.2	50.2	50.2
85°	26.4	29.1	31.7	34.4	37.0
87.5°	15.9	15.9	18.5	21.1	23.8
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)