

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: P546790

Luminaire Tested: **FMR-24-4-LD4-2LO-35-UNV-81-97-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: P546790
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-24-4-LD4-2LO-35-UNV-81-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

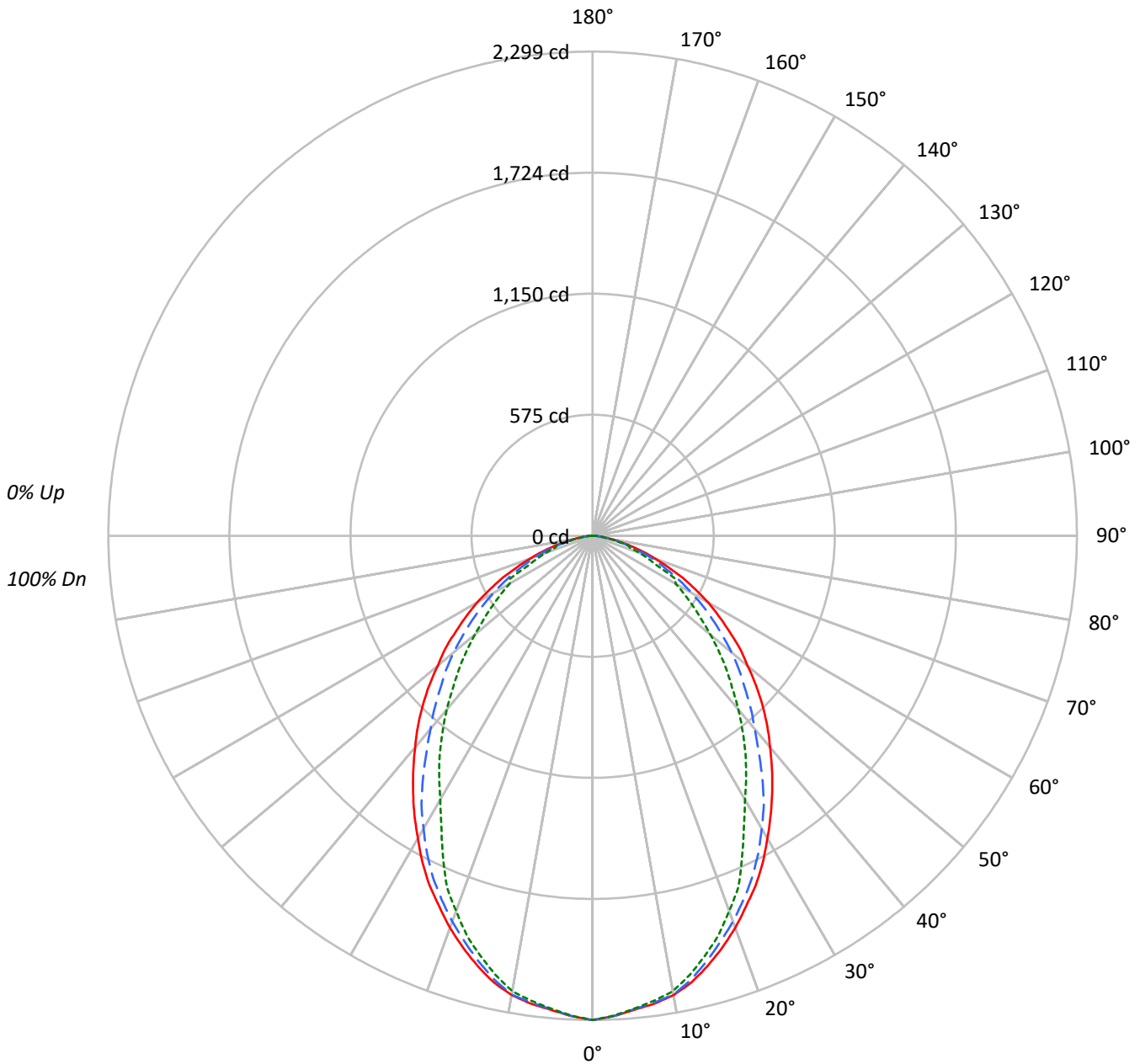
Lumens per Lamp: N/A
Luminaire Lumens: 4514.0 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	3094	3094	3094
5°	3052	3048	3045
10°	3025	3022	3000
15°	2944	2914	2873
20°	2836	2790	2714
25°	2719	2660	2494
30°	2577	2495	2247
35°	2441	2305	2078
40°	2302	2101	1891
45°	2170	1942	1710
50°	2009	1803	1525
55°	1858	1634	1366
60°	1703	1459	1223
65°	1498	1278	1083
70°	1234	1119	920
75°	981	857	898
80°	659	618	576
85°	411	492	574



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.0	4.7
10°-20°	587.4	13.0
20°-30°	813.2	18.0
30°-40°	867.1	19.2
40°-50°	791.1	17.5
50°-60°	619.8	13.7
60°-70°	403.9	8.9
70°-80°	179.0	4.0
80°-90°	38.4	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°	1614.7	35.8
0°-40°	2481.8	55.0
0°-60°	3892.7	86.2
0°-90°	4514.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4514.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2299	2299	2299	2299	2299	
5°	2260	2257	2257	2254	2254	214
15°	2113	2113	2092	2071	2063	594
25°	1832	1821	1792	1728	1680	841
35°	1486	1475	1404	1297	1265	929
45°	1140	1116	1021	936	898	878
55°	792	768	696	614	582	710
65°	470	444	401	409	340	464
75°	189	175	165	157	173	202
85°	27	29	32	35	37	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2299.4	2299.4	2299.4	2299.4	2299.4
2.5°	2283.4	2283.4	2283.4	2280.8	2280.8
5°	2259.5	2256.8	2256.8	2254.2	2254.2
7.5°	2240.9	2238.2	2235.6	2232.9	2227.6
10°	2214.3	2214.3	2211.6	2198.4	2195.7
12.5°	2171.8	2169.1	2158.5	2139.9	2134.6
15°	2113.3	2113.3	2092.0	2070.8	2062.8
17.5°	2049.5	2046.8	2020.3	1999.0	1988.4
20°	1980.4	1975.1	1948.5	1913.9	1895.3
22.5°	1903.3	1903.3	1871.4	1826.2	1807.6
25°	1831.5	1820.9	1791.6	1727.9	1680.0
27.5°	1749.1	1733.2	1701.3	1610.9	1555.1
30°	1658.7	1650.8	1605.6	1488.6	1446.1
32.5°	1573.7	1560.4	1512.5	1390.3	1355.7
35°	1486.0	1475.3	1403.5	1297.2	1265.3
37.5°	1398.2	1384.9	1294.6	1209.5	1169.6
40°	1310.5	1294.6	1196.2	1119.1	1076.6
42.5°	1228.1	1206.8	1111.1	1028.7	980.9
45°	1140.4	1116.5	1020.8	935.7	898.5
47.5°	1052.7	1031.4	943.7	856.0	813.4
50°	959.6	941.0	861.3	773.5	728.4
52.5°	882.5	853.3	776.2	688.5	651.3
55°	792.2	768.2	696.5	614.1	582.2
57.5°	709.7	685.8	619.4	542.3	515.7
60°	632.7	598.1	542.3	475.8	454.6
62.5°	547.6	521.0	473.2	417.3	443.9
65°	470.5	443.9	401.4	409.4	340.3
67.5°	385.4	372.2	334.9	297.7	287.1
70°	313.7	297.7	284.4	244.6	233.9
72.5°	249.9	233.9	215.3	194.1	186.1
75°	188.7	175.4	164.8	156.8	172.8
77.5°	130.3	124.9	117.0	109.0	106.3
80°	85.1	82.4	79.7	77.1	74.4
82.5°	50.5	50.5	50.5	50.5	50.5
85°	26.6	29.2	31.9	34.6	37.2
87.5°	15.9	15.9	18.6	21.3	23.9
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)