

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: P546517

Luminaire Tested: **FMR-24-4-LD4-1HI-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: P546517
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-LD4-1HI-50-UNV-93-96-EDD
Description: 2X4 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

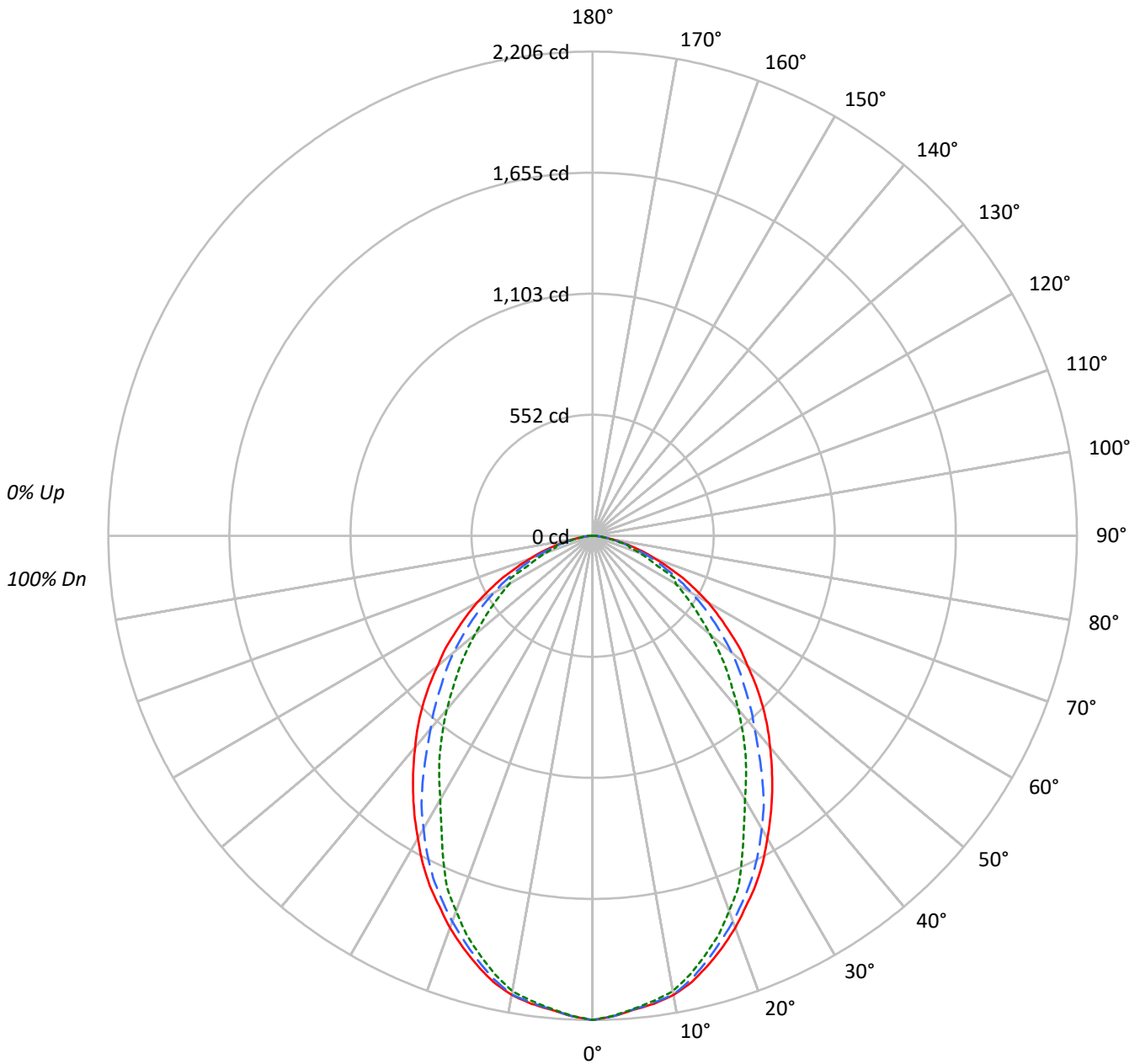
Lumens per Lamp: N/A
Luminaire Lumens: 4331.0 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (A_{in}): 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°	2968	2968	2968
5°	2928	2925	2921
10°	2903	2899	2878
15°	2824	2796	2757
20°	2721	2677	2604
25°	2609	2552	2393
30°	2473	2393	2156
35°	2342	2212	1994
40°	2209	2016	1814
45°	2082	1864	1640
50°	1927	1730	1463
55°	1783	1567	1310
60°	1633	1400	1174
65°	1437	1226	1039
70°	1184	1074	883
75°	941	822	862
80°	632	593	553
85°	394	472	551



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.4	4.7
10°-20°	563.6	13.0
20°-30°	780.3	18.0
30°-40°	832.0	19.2
40°-50°	759.0	17.5
50°-60°	594.6	13.7
60°-70°	387.6	8.9
70°-80°	171.7	4.0
80°-90°	36.9	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°	1549.2	35.8
0°-40°	2381.2	55.0
0°-60°	3734.9	86.2
0°-90°	4331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4331.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2206	2206	2206	2206	2206	
5°	2168	2165	2165	2163	2163	206
15°	2028	2028	2007	1987	1979	570
25°	1757	1747	1719	1658	1612	807
35°	1426	1416	1347	1245	1214	891
45°	1094	1071	979	898	862	843
55°	760	737	668	589	559	682
65°	451	426	385	393	326	445
75°	181	168	158	150	166	194
85°	26	28	31	33	36	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2206.2	2206.2	2206.2	2206.2	2206.2
2.5°	2190.9	2190.9	2190.9	2188.3	2188.3
5°	2167.9	2165.3	2165.3	2162.8	2162.8
7.5°	2150.0	2147.5	2144.9	2142.4	2137.3
10°	2124.5	2124.5	2122.0	2109.2	2106.7
12.5°	2083.7	2081.2	2071.0	2053.1	2048.0
15°	2027.6	2027.6	2007.2	1986.8	1979.2
17.5°	1966.4	1963.9	1938.4	1918.0	1907.7
20°	1900.1	1895.0	1869.5	1836.3	1818.5
22.5°	1826.1	1826.1	1795.5	1752.2	1734.3
25°	1757.3	1747.1	1719.0	1657.8	1611.9
27.5°	1678.2	1662.9	1632.3	1545.6	1492.0
30°	1591.5	1583.8	1540.5	1428.3	1387.5
32.5°	1509.9	1497.1	1451.2	1333.9	1300.7
35°	1425.7	1415.5	1346.6	1244.6	1214.0
37.5°	1341.5	1328.8	1242.1	1160.5	1122.2
40°	1257.4	1242.1	1147.7	1073.7	1032.9
42.5°	1178.3	1157.9	1066.1	987.0	941.1
45°	1094.2	1071.2	979.4	897.8	862.1
47.5°	1010.0	989.6	905.4	821.3	780.4
50°	920.7	902.9	826.4	742.2	698.8
52.5°	846.8	818.7	744.7	660.6	624.9
55°	760.0	737.1	668.2	589.2	558.6
57.5°	681.0	658.0	594.3	520.3	494.8
60°	607.0	573.9	520.3	456.5	436.1
62.5°	525.4	499.9	454.0	400.4	425.9
65°	451.4	425.9	385.1	392.8	326.5
67.5°	369.8	357.1	321.4	285.7	275.5
70°	301.0	285.7	272.9	234.6	224.4
72.5°	239.7	224.4	206.6	186.2	178.5
75°	181.1	168.3	158.1	150.5	165.8
77.5°	125.0	119.9	112.2	104.6	102.0
80°	81.6	79.1	76.5	74.0	71.4
82.5°	48.5	48.5	48.5	48.5	48.5
85°	25.5	28.1	30.6	33.2	35.7
87.5°	15.3	15.3	17.9	20.4	23.0
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)