

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: P546821

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-81-96-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: P546821
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-40-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

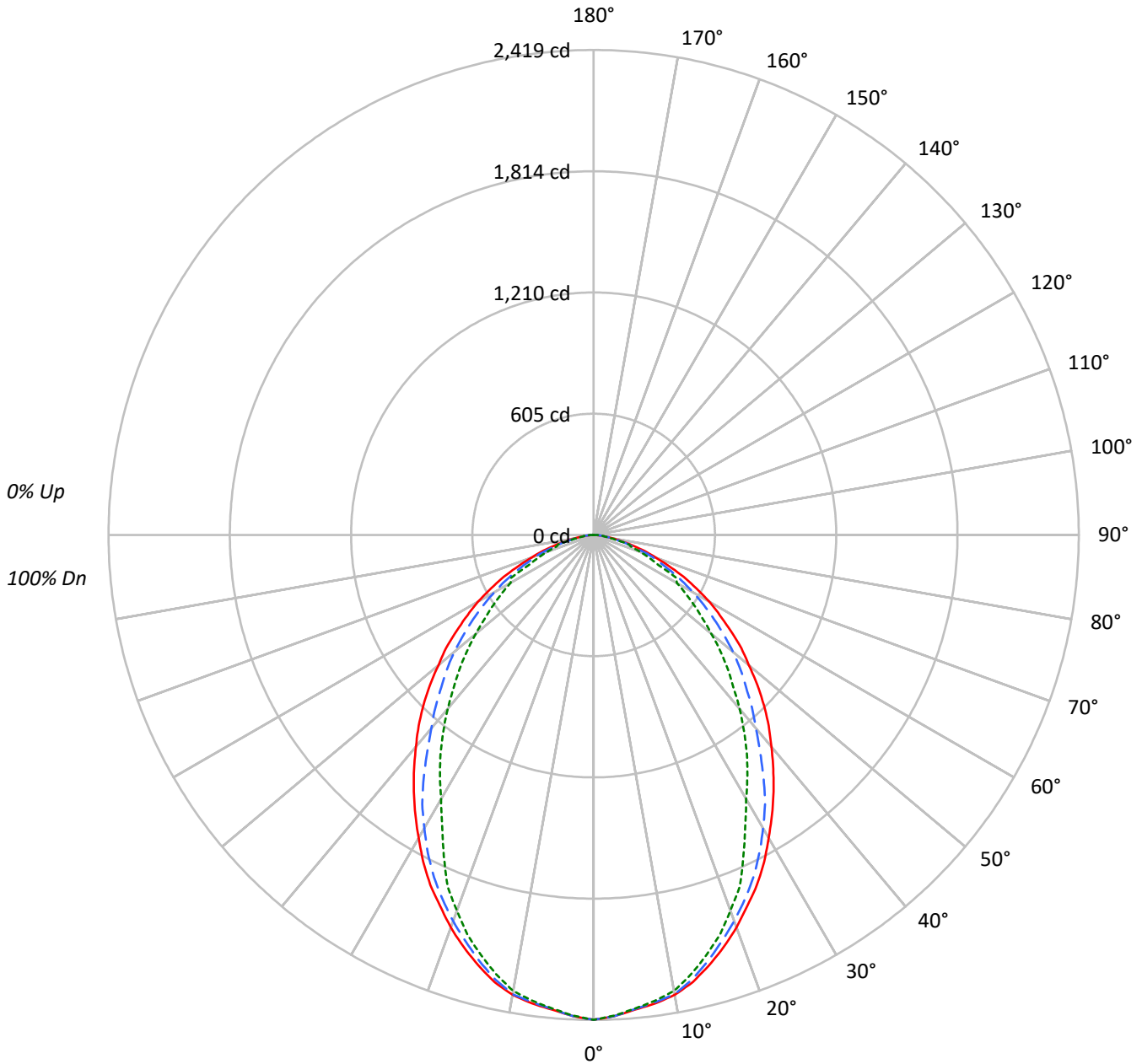
Lumens per Lamp: N/A
Luminaire Lumens: 4748.0 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	3254	3254	3254
5°	3210	3206	3202
10°	3182	3178	3155
15°	3096	3065	3022
20°	2983	2935	2855
25°	2860	2798	2623
30°	2711	2624	2363
35°	2567	2425	2186
40°	2421	2210	1989
45°	2282	2043	1798
50°	2113	1896	1604
55°	1955	1719	1436
60°	1791	1535	1287
65°	1576	1344	1139
70°	1298	1177	968
75°	1032	901	945
80°	693	650	607
85°	432	519	604



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.1	4.7
10°-20°	617.9	13.0
20°-30°	855.4	18.0
30°-40°	912.1	19.2
40°-50°	832.1	17.5
50°-60°	651.9	13.7
60°-70°	424.9	8.9
70°-80°	188.2	4.0
80°-90°	40.4	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°	1698.4	35.8
0°-40°	2610.5	55.0
0°-60°	4094.5	86.2
0°-90°	4748.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4748.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2419	2419	2419	2419	2419	
5°	2377	2374	2374	2371	2371	226
15°	2223	2223	2200	2178	2170	625
25°	1926	1915	1884	1817	1767	884
35°	1563	1552	1476	1364	1331	977
45°	1200	1174	1074	984	945	924
55°	833	808	733	646	612	747
65°	495	467	422	431	358	488
75°	198	184	173	165	182	213
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2418.6	2418.6	2418.6	2418.6	2418.6
2.5°	2401.8	2401.8	2401.8	2399.0	2399.0
5°	2376.6	2373.8	2373.8	2371.0	2371.0
7.5°	2357.1	2354.3	2351.5	2348.7	2343.1
10°	2329.1	2329.1	2326.3	2312.3	2309.5
12.5°	2284.4	2281.6	2270.4	2250.8	2245.2
15°	2222.8	2222.8	2200.5	2178.1	2169.7
17.5°	2155.7	2152.9	2125.0	2102.6	2091.4
20°	2083.0	2077.5	2049.5	2013.1	1993.6
22.5°	2002.0	2002.0	1968.4	1920.9	1901.3
25°	1926.5	1915.3	1884.5	1817.4	1767.1
27.5°	1839.8	1823.0	1789.5	1694.4	1635.7
30°	1744.7	1736.3	1688.8	1565.8	1521.0
32.5°	1655.3	1641.3	1590.9	1462.3	1426.0
35°	1563.0	1551.8	1476.3	1364.5	1330.9
37.5°	1470.7	1456.7	1361.7	1272.2	1230.3
40°	1378.4	1361.7	1258.2	1177.1	1132.4
42.5°	1291.8	1269.4	1168.7	1082.1	1031.7
45°	1199.5	1174.3	1073.7	984.2	945.1
47.5°	1107.2	1084.9	992.6	900.3	855.6
50°	1009.4	989.8	905.9	813.6	766.1
52.5°	928.3	897.5	816.4	724.2	685.0
55°	833.2	808.1	732.6	645.9	612.3
57.5°	746.5	721.4	651.5	570.4	542.4
60°	665.5	629.1	570.4	500.5	478.1
62.5°	576.0	548.0	497.7	439.0	466.9
65°	494.9	466.9	422.2	430.6	357.9
67.5°	405.4	391.4	352.3	313.2	302.0
70°	329.9	313.2	299.2	257.2	246.1
72.5°	262.8	246.1	226.5	204.1	195.7
75°	198.5	184.5	173.4	165.0	181.7
77.5°	137.0	131.4	123.0	114.6	111.8
80°	89.5	86.7	83.9	81.1	78.3
82.5°	53.1	53.1	53.1	53.1	53.1
85°	28.0	30.8	33.6	36.3	39.1
87.5°	16.8	16.8	19.6	22.4	25.2
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)