

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: P546508

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-82-94-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: P546508
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-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

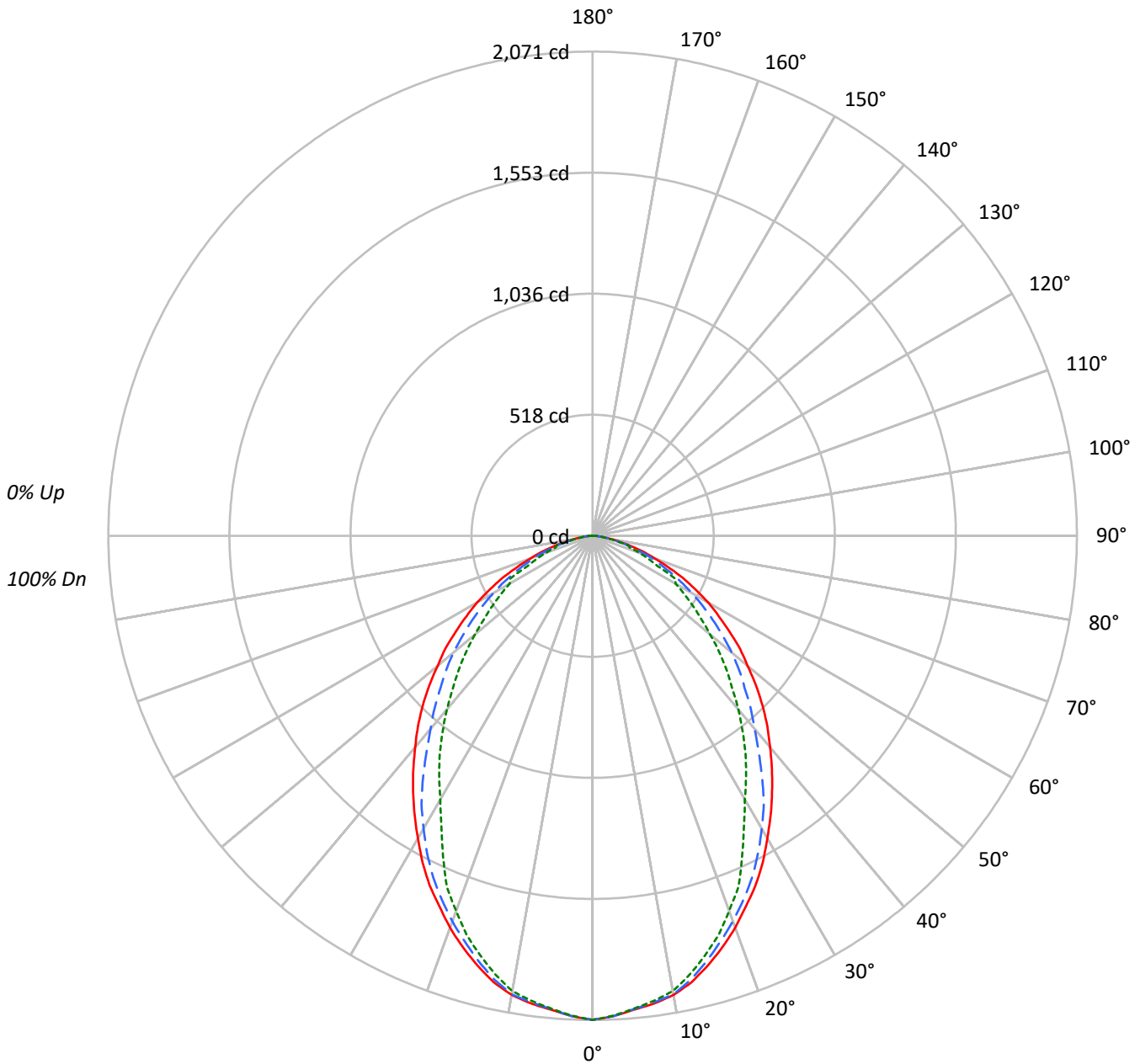
Lumens per Lamp: N/A
Luminaire Lumens: 4065.0 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2786	2786	2786
5°	2748	2745	2742
10°	2724	2721	2701
15°	2651	2624	2588
20°	2554	2512	2444
25°	2449	2395	2246
30°	2321	2246	2023
35°	2198	2076	1872
40°	2073	1892	1703
45°	1954	1749	1540
50°	1809	1623	1373
55°	1673	1471	1230
60°	1533	1314	1101
65°	1349	1151	975
70°	1111	1007	829
75°	884	771	809
80°	594	556	519
85°	369	443	517



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.8	4.7
10°-20°	529.0	13.0
20°-30°	732.4	18.0
30°-40°	780.9	19.2
40°-50°	712.4	17.5
50°-60°	558.1	13.7
60°-70°	363.7	8.9
70°-80°	161.1	4.0
80°-90°	34.6	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°	1454.1	35.8
0°-40°	2235.0	55.0
0°-60°	3505.5	86.2
0°-90°	4065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4065.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2071	2071	2071	2071	2071	
5°	2035	2032	2032	2030	2030	193
15°	1903	1903	1884	1865	1858	535
25°	1649	1640	1613	1556	1513	757
35°	1338	1329	1264	1168	1140	837
45°	1027	1005	919	843	809	791
55°	713	692	627	553	524	640
65°	424	400	362	369	306	418
75°	170	158	148	141	156	182
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2070.7	2070.7	2070.7	2070.7	2070.7
2.5°	2056.3	2056.3	2056.3	2053.9	2053.9
5°	2034.7	2032.4	2032.4	2030.0	2030.0
7.5°	2018.0	2015.6	2013.2	2010.8	2006.0
10°	1994.1	1994.1	1991.7	1979.7	1977.3
12.5°	1955.8	1953.4	1943.8	1927.0	1922.2
15°	1903.1	1903.1	1883.9	1864.8	1857.6
17.5°	1845.6	1843.2	1819.3	1800.2	1790.6
20°	1783.4	1778.6	1754.7	1723.6	1706.8
22.5°	1714.0	1714.0	1685.3	1644.6	1627.8
25°	1649.3	1639.8	1613.4	1556.0	1512.9
27.5°	1575.1	1560.8	1532.0	1450.7	1400.4
30°	1493.7	1486.6	1445.9	1340.5	1302.2
32.5°	1417.1	1405.2	1362.1	1252.0	1220.8
35°	1338.1	1328.6	1263.9	1168.2	1139.5
37.5°	1259.2	1247.2	1165.8	1089.2	1053.3
40°	1180.2	1165.8	1077.2	1007.8	969.5
42.5°	1105.9	1086.8	1000.6	926.4	883.3
45°	1026.9	1005.4	919.2	842.6	809.1
47.5°	948.0	928.8	849.8	770.8	732.5
50°	864.2	847.4	775.6	696.6	655.9
52.5°	794.7	768.4	699.0	620.0	586.5
55°	713.4	691.8	627.2	553.0	524.2
57.5°	639.2	617.6	557.8	488.3	464.4
60°	569.7	538.6	488.3	428.5	409.3
62.5°	493.1	469.2	426.1	375.8	399.8
65°	423.7	399.8	361.5	368.6	306.4
67.5°	347.1	335.1	301.6	268.1	258.5
70°	282.5	268.1	256.1	220.2	210.7
72.5°	225.0	210.7	193.9	174.7	167.6
75°	170.0	158.0	148.4	141.2	155.6
77.5°	117.3	112.5	105.3	98.1	95.8
80°	76.6	74.2	71.8	69.4	67.0
82.5°	45.5	45.5	45.5	45.5	45.5
85°	23.9	26.3	28.7	31.1	33.5
87.5°	14.4	14.4	16.8	19.2	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)