

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: P546733

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-82-96-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: P546733
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-LD4-2HI-40-UNV-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 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

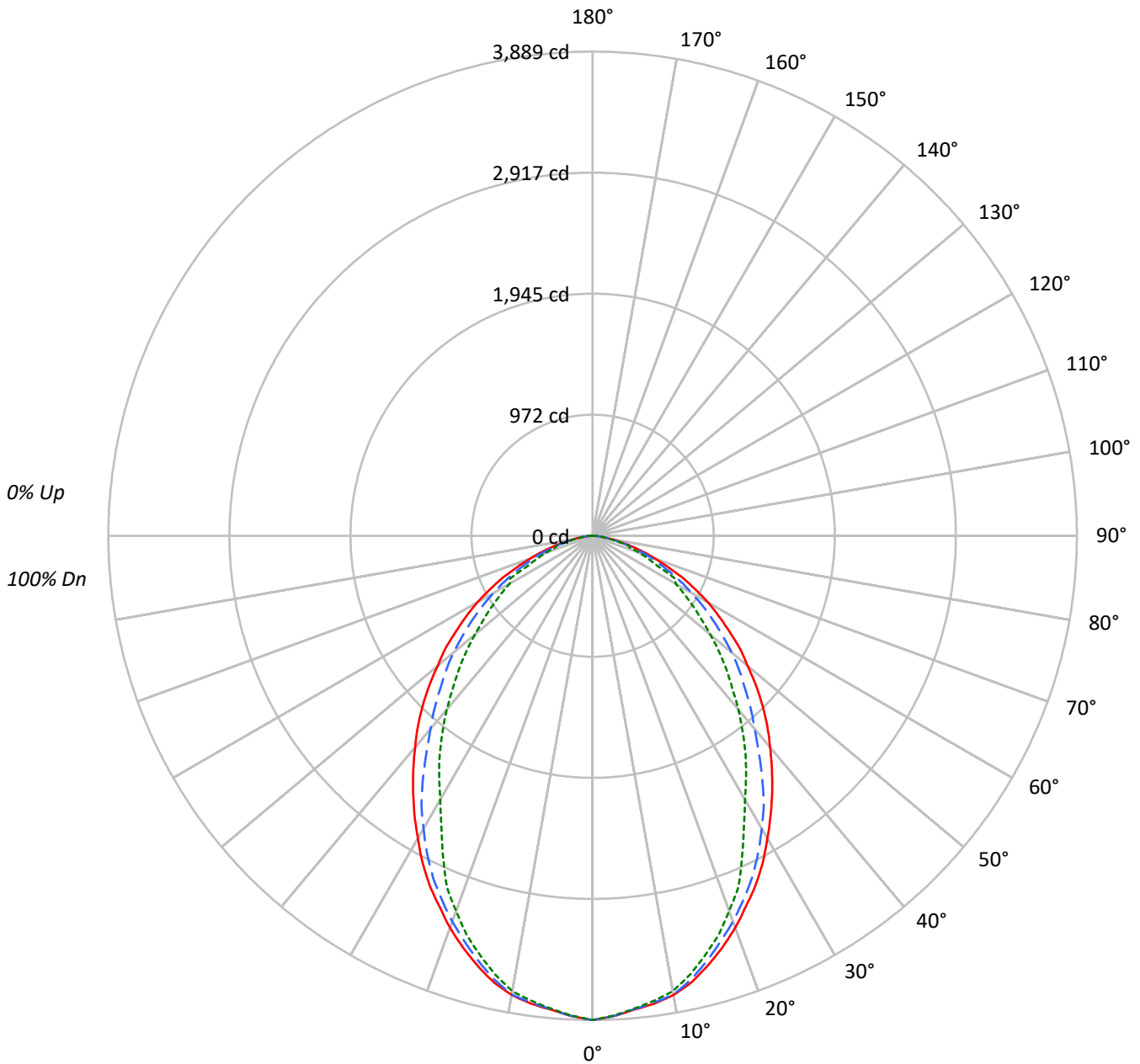
Lumens per Lamp: N/A
Luminaire Lumens: 7635.0 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	5233	5233	5233
5°	5162	5156	5150
10°	5117	5111	5074
15°	4979	4929	4860
20°	4796	4719	4590
25°	4599	4499	4219
30°	4359	4219	3800
35°	4128	3899	3515
40°	3893	3554	3198
45°	3670	3285	2892
50°	3397	3049	2579
55°	3143	2763	2310
60°	2880	2468	2069
65°	2534	2161	1832
70°	2087	1893	1557
75°	1659	1449	1519
80°	1115	1045	976
85°	695	834	971



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	362.0	4.7
10°-20°	993.6	13.0
20°-30°	1375.5	18.0
30°-40°	1466.7	19.2
40°-50°	1338.1	17.5
50°-60°	1048.3	13.7
60°-70°	683.2	8.9
70°-80°	302.7	4.0
80°-90°	65.0	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°	2731.1	35.8
0°-40°	4197.8	55.0
0°-60°	6584.1	86.2
0°-90°	7635.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7635.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3889	3889	3889	3889	3889	
5°	3822	3817	3817	3813	3813	363
15°	3574	3574	3538	3502	3489	1005
25°	3098	3080	3030	2922	2842	1422
35°	2513	2495	2374	2194	2140	1571
45°	1929	1888	1726	1583	1520	1486
55°	1340	1299	1178	1039	985	1202
65°	796	751	679	692	576	784
75°	319	297	279	265	292	342
85°	45	50	54	58	63	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3889.2	3889.2	3889.2	3889.2	3889.2
2.5°	3862.2	3862.2	3862.2	3857.7	3857.7
5°	3821.7	3817.2	3817.2	3812.7	3812.7
7.5°	3790.3	3785.8	3781.3	3776.8	3767.8
10°	3745.3	3745.3	3740.8	3718.3	3713.8
12.5°	3673.4	3668.9	3650.9	3619.4	3610.4
15°	3574.4	3574.4	3538.5	3502.5	3489.0
17.5°	3466.5	3462.0	3417.1	3381.1	3363.1
20°	3349.6	3340.6	3295.7	3237.2	3205.8
22.5°	3219.2	3219.2	3165.3	3088.9	3057.4
25°	3097.8	3079.9	3030.4	2922.5	2841.6
27.5°	2958.5	2931.5	2877.5	2724.7	2630.2
30°	2805.6	2792.1	2715.7	2517.8	2445.9
32.5°	2661.7	2639.2	2558.3	2351.5	2293.0
35°	2513.3	2495.4	2374.0	2194.1	2140.2
37.5°	2365.0	2342.5	2189.6	2045.7	1978.3
40°	2216.6	2189.6	2023.3	1892.9	1820.9
42.5°	2077.2	2041.3	1879.4	1740.0	1659.1
45°	1928.8	1888.4	1726.5	1582.6	1519.7
47.5°	1780.5	1744.5	1596.1	1447.8	1375.8
50°	1623.1	1591.6	1456.8	1308.4	1231.9
52.5°	1492.7	1443.3	1312.9	1164.5	1101.6
55°	1339.9	1299.4	1178.0	1038.6	984.7
57.5°	1200.5	1160.0	1047.6	917.2	872.3
60°	1070.1	1011.6	917.2	804.8	768.8
62.5°	926.2	881.2	800.3	705.9	750.9
65°	795.8	750.9	678.9	692.4	575.5
67.5°	651.9	629.5	566.5	503.6	485.6
70°	530.5	503.6	481.1	413.6	395.7
72.5°	422.6	395.7	364.2	328.2	314.7
75°	319.2	296.7	278.8	265.3	292.2
77.5°	220.3	211.3	197.8	184.3	179.8
80°	143.9	139.4	134.9	130.4	125.9
82.5°	85.4	85.4	85.4	85.4	85.4
85°	45.0	49.5	54.0	58.4	62.9
87.5°	27.0	27.0	31.5	36.0	40.5
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)