

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: P546891

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-82-88-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: P546891
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-LD4-2STD-35-UNV-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

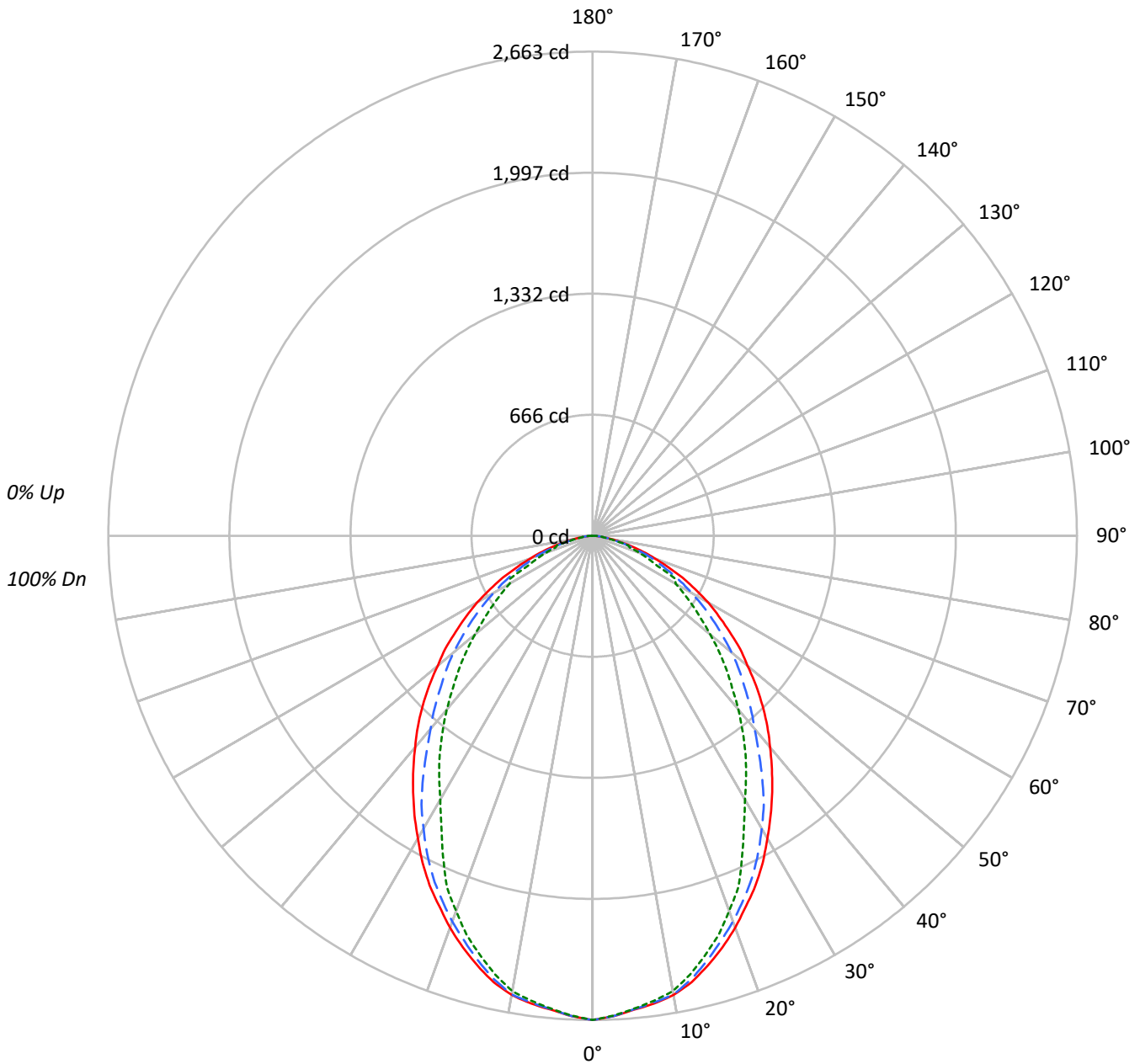
Lumens per Lamp: N/A
Luminaire Lumens: 5228.0 lumens
Efficiency: N/A
Efficacy: 78.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	3583	3583	3583
5°	3534	3530	3526
10°	3504	3500	3474
15°	3409	3375	3328
20°	3284	3231	3143
25°	3149	3081	2889
30°	2985	2889	2602
35°	2827	2670	2407
40°	2666	2433	2190
45°	2513	2250	1980
50°	2326	2088	1766
55°	2152	1892	1582
60°	1972	1690	1417
65°	1735	1480	1255
70°	1429	1296	1066
75°	1136	992	1040
80°	763	716	668
85°	475	570	665



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.9	4.7
10°-20°	680.3	13.0
20°-30°	941.9	18.0
30°-40°	1004.3	19.2
40°-50°	916.2	17.5
50°-60°	717.8	13.7
60°-70°	467.8	8.9
70°-80°	207.3	4.0
80°-90°	44.5	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°	1870.1	35.8
0°-40°	2874.4	55.0
0°-60°	4508.4	86.2
0°-90°	5228.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5228.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2663	2663	2663	2663	2663	
5°	2617	2614	2614	2611	2611	248
15°	2448	2448	2423	2398	2389	688
25°	2121	2109	2075	2001	1946	974
35°	1721	1709	1626	1502	1466	1076
45°	1321	1293	1182	1084	1041	1017
55°	918	890	807	711	674	823
65°	545	514	465	474	394	537
75°	219	203	191	182	200	234
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2663.1	2663.1	2663.1	2663.1	2663.1
2.5°	2644.6	2644.6	2644.6	2641.5	2641.5
5°	2616.9	2613.8	2613.8	2610.7	2610.7
7.5°	2595.3	2592.3	2589.2	2586.1	2579.9
10°	2564.6	2564.6	2561.5	2546.1	2543.0
12.5°	2515.3	2512.2	2499.9	2478.4	2472.2
15°	2447.6	2447.6	2422.9	2398.3	2389.1
17.5°	2373.7	2370.6	2339.8	2315.2	2302.9
20°	2293.6	2287.5	2256.7	2216.7	2195.1
22.5°	2204.3	2204.3	2167.4	2115.1	2093.5
25°	2121.2	2108.9	2075.0	2001.2	1945.7
27.5°	2025.8	2007.3	1970.4	1865.7	1801.0
30°	1921.1	1911.9	1859.5	1724.1	1674.8
32.5°	1822.6	1807.2	1751.8	1610.2	1570.1
35°	1721.0	1708.7	1625.6	1502.4	1465.5
37.5°	1619.4	1604.0	1499.3	1400.8	1354.6
40°	1517.8	1499.3	1385.4	1296.1	1246.9
42.5°	1422.4	1397.7	1286.9	1191.5	1136.0
45°	1320.8	1293.1	1182.2	1083.7	1040.6
47.5°	1219.2	1194.5	1092.9	991.3	942.1
50°	1111.4	1089.9	997.5	895.9	843.6
52.5°	1022.1	988.3	899.0	797.4	754.3
55°	917.5	889.7	806.6	711.2	674.2
57.5°	822.0	794.3	717.3	628.1	597.3
60°	732.7	692.7	628.1	551.1	526.5
62.5°	634.2	603.4	548.0	483.4	514.1
65°	544.9	514.1	464.9	474.1	394.1
67.5°	446.4	431.0	387.9	344.8	332.5
70°	363.3	344.8	329.4	283.2	270.9
72.5°	289.4	270.9	249.4	224.7	215.5
75°	218.6	203.2	190.9	181.6	200.1
77.5°	150.9	144.7	135.5	126.2	123.1
80°	98.5	95.4	92.4	89.3	86.2
82.5°	58.5	58.5	58.5	58.5	58.5
85°	30.8	33.9	36.9	40.0	43.1
87.5°	18.5	18.5	21.6	24.6	27.7
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)