

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: P546889

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-82-86-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: P546889
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-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

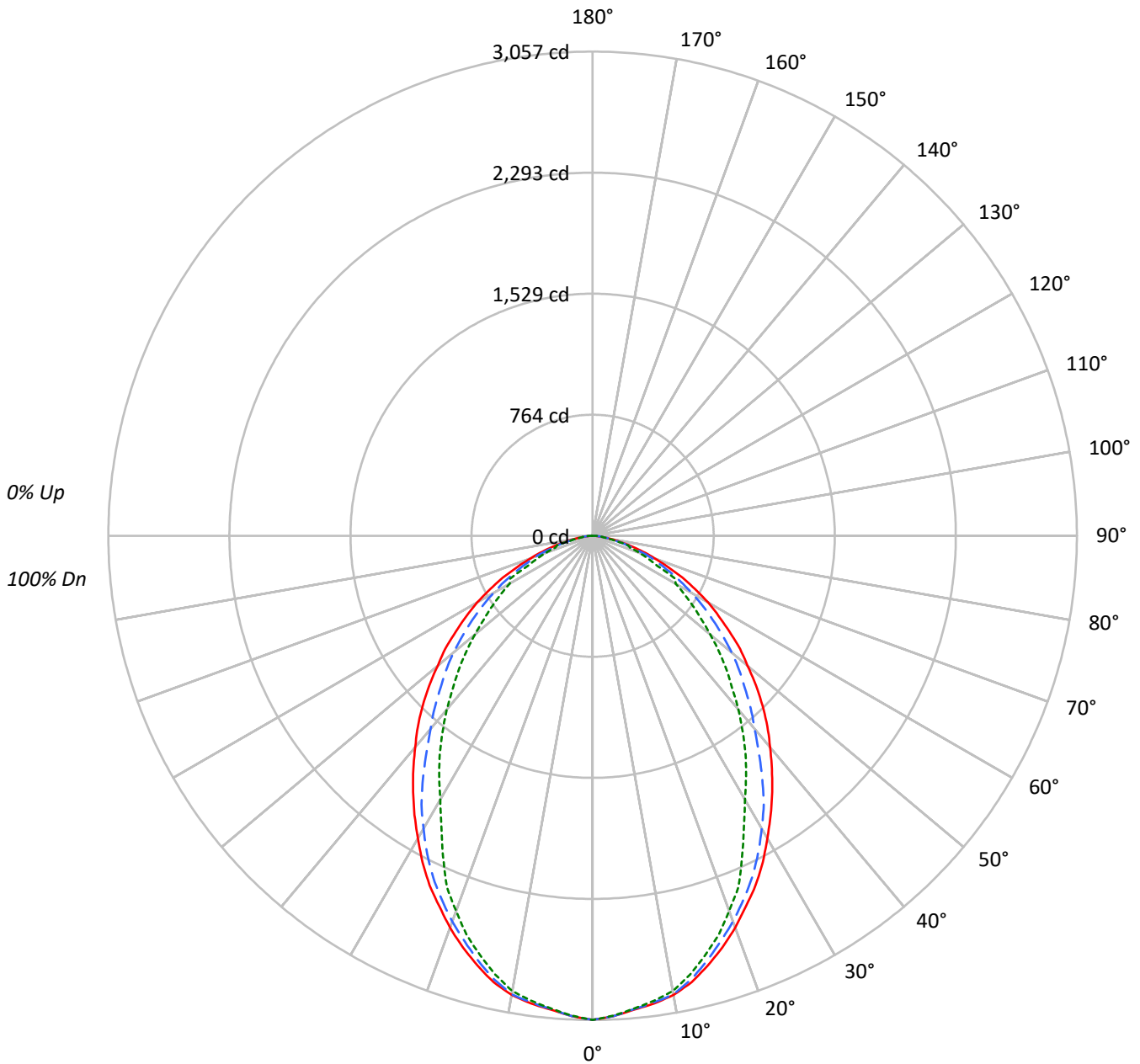
Lumens per Lamp: N/A
Luminaire Lumens: 6001.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P546889

CATALOG NUMBER: FMR-24-4-LD4-2STD-35-UNV-82-86-EDD

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°	4113	4113	4113
5°	4057	4052	4048
10°	4022	4017	3988
15°	3914	3874	3820
20°	3770	3709	3608
25°	3615	3536	3316
30°	3426	3316	2987
35°	3245	3065	2763
40°	3060	2793	2514
45°	2885	2582	2273
50°	2670	2397	2027
55°	2470	2172	1815
60°	2263	1940	1626
65°	1991	1699	1440
70°	1640	1487	1223
75°	1304	1139	1194
80°	876	821	766
85°	545	655	764



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	284.5	4.7
10°-20°	780.9	13.0
20°-30°	1081.1	18.0
30°-40°	1152.8	19.2
40°-50°	1051.7	17.5
50°-60°	823.9	13.7
60°-70°	537.0	8.9
70°-80°	237.9	4.0
80°-90°	51.1	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°	2146.6	35.8
0°-40°	3299.4	55.0
0°-60°	5175.0	86.2
0°-90°	6001.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6001.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3057	3057	3057	3057	3057	
5°	3004	3000	3000	2997	2997	285
15°	2810	2810	2781	2753	2742	790
25°	2435	2421	2382	2297	2233	1118
35°	1976	1961	1866	1724	1682	1235
45°	1516	1484	1357	1244	1194	1168
55°	1053	1021	926	816	774	945
65°	626	590	534	544	452	616
75°	251	233	219	208	230	269
85°	35	39	42	46	50	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3056.8	3056.8	3056.8	3056.8	3056.8
2.5°	3035.6	3035.6	3035.6	3032.1	3032.1
5°	3003.8	3000.3	3000.3	2996.8	2996.8
7.5°	2979.1	2975.5	2972.0	2968.5	2961.4
10°	2943.7	2943.7	2940.2	2922.5	2919.0
12.5°	2887.2	2883.7	2869.5	2844.8	2837.7
15°	2809.5	2809.5	2781.2	2752.9	2742.3
17.5°	2724.6	2721.1	2685.8	2657.5	2643.4
20°	2632.8	2625.7	2590.4	2544.4	2519.7
22.5°	2530.3	2530.3	2487.9	2427.8	2403.1
25°	2434.9	2420.7	2381.9	2297.0	2233.4
27.5°	2325.3	2304.1	2261.7	2141.5	2067.3
30°	2205.2	2194.6	2134.5	1979.0	1922.4
32.5°	2092.1	2074.4	2010.8	1848.2	1802.3
35°	1975.5	1961.3	1865.9	1724.5	1682.1
37.5°	1858.8	1841.2	1721.0	1607.9	1554.9
40°	1742.2	1721.0	1590.3	1487.8	1431.2
42.5°	1632.7	1604.4	1477.2	1367.6	1304.0
45°	1516.0	1484.2	1357.0	1243.9	1194.5
47.5°	1399.4	1371.2	1254.5	1137.9	1081.4
50°	1275.7	1251.0	1145.0	1028.4	968.3
52.5°	1173.3	1134.4	1031.9	915.3	865.8
55°	1053.1	1021.3	925.9	816.3	773.9
57.5°	943.6	911.7	823.4	720.9	685.6
60°	841.1	795.1	720.9	632.6	604.3
62.5°	728.0	692.6	629.0	554.8	590.2
65°	625.5	590.2	533.6	544.2	452.3
67.5°	512.4	494.7	445.3	395.8	381.7
70°	417.0	395.8	378.1	325.1	311.0
72.5°	332.2	311.0	286.2	258.0	247.4
75°	250.9	233.2	219.1	208.5	229.7
77.5°	173.2	166.1	155.5	144.9	141.4
80°	113.1	109.6	106.0	102.5	98.9
82.5°	67.1	67.1	67.1	67.1	67.1
85°	35.3	38.9	42.4	45.9	49.5
87.5°	21.2	21.2	24.7	28.3	31.8
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)