

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: P546753

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-81-86-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: P546753
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-50-UNV-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

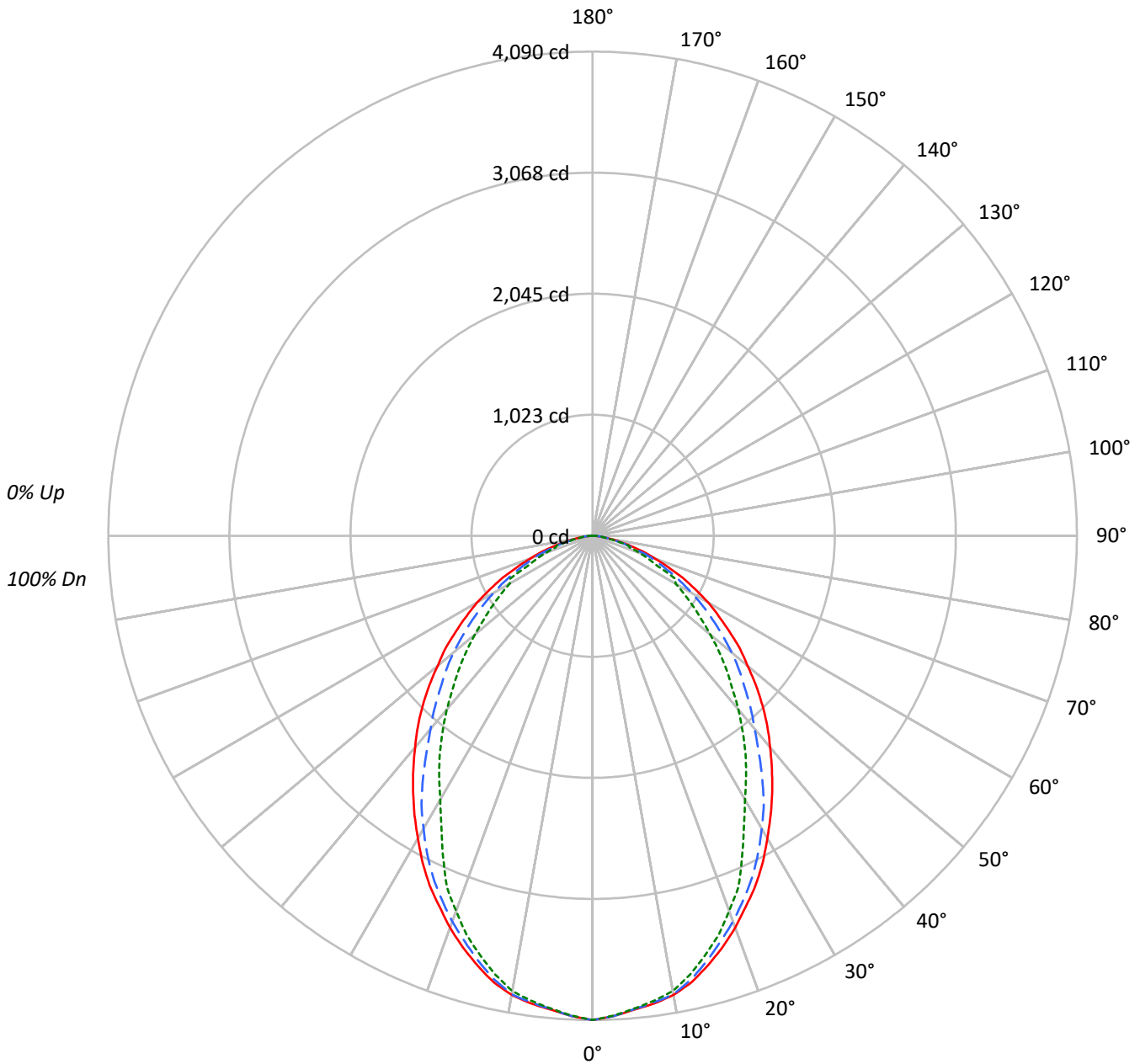
Lumens per Lamp: N/A
Luminaire Lumens: 8029.0 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546753

CATALOG NUMBER: FMR-24-4-LD4-2HI-50-UNV-81-86-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°	5503	5503	5503
5°	5428	5422	5415
10°	5381	5375	5336
15°	5236	5183	5111
20°	5044	4962	4827
25°	4836	4731	4436
30°	4584	4437	3996
35°	4341	4101	3697
40°	4094	3737	3363
45°	3860	3455	3041
50°	3573	3207	2712
55°	3305	2906	2429
60°	3028	2595	2176
65°	2664	2273	1927
70°	2195	1990	1637
75°	1745	1524	1598
80°	1172	1099	1026
85°	730	875	1022



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	380.7	4.7
10°-20°	1044.8	13.0
20°-30°	1446.5	18.0
30°-40°	1542.4	19.2
40°-50°	1407.1	17.5
50°-60°	1102.4	13.7
60°-70°	718.5	8.9
70°-80°	318.3	4.0
80°-90°	68.3	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°	2872.0	35.8
0°-40°	4414.4	55.0
0°-60°	6923.9	86.2
0°-90°	8029.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8029.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4090	4090	4090	4090	4090	
5°	4019	4014	4014	4010	4010	381
15°	3759	3759	3721	3683	3669	1057
25°	3258	3239	3187	3073	2988	1496
35°	2643	2624	2496	2307	2251	1652
45°	2028	1986	1816	1664	1598	1562
55°	1409	1366	1239	1092	1036	1264
65°	837	790	714	728	605	825
75°	336	312	293	279	307	360
85°	47	52	57	62	66	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4089.9	4089.9	4089.9	4089.9	4089.9
2.5°	4061.5	4061.5	4061.5	4056.8	4056.8
5°	4018.9	4014.2	4014.2	4009.5	4009.5
7.5°	3985.8	3981.1	3976.4	3971.7	3962.2
10°	3938.6	3938.6	3933.8	3910.2	3905.5
12.5°	3862.9	3858.2	3839.3	3806.2	3796.7
15°	3758.9	3758.9	3721.1	3683.2	3669.1
17.5°	3645.4	3640.7	3593.4	3555.6	3536.7
20°	3522.5	3513.0	3465.7	3404.3	3371.2
22.5°	3385.4	3385.4	3328.6	3248.3	3215.2
25°	3257.7	3238.8	3186.8	3073.3	2988.2
27.5°	3111.1	3082.8	3026.0	2865.3	2766.0
30°	2950.4	2936.2	2855.8	2647.8	2572.1
32.5°	2799.1	2775.4	2690.3	2472.8	2411.4
35°	2643.0	2624.1	2496.5	2307.3	2250.6
37.5°	2487.0	2463.4	2302.6	2151.3	2080.4
40°	2331.0	2302.6	2127.7	1990.6	1914.9
42.5°	2184.4	2146.6	1976.4	1829.8	1744.7
45°	2028.4	1985.8	1815.6	1664.3	1598.1
47.5°	1872.4	1834.5	1678.5	1522.5	1446.8
50°	1706.9	1673.8	1531.9	1375.9	1295.5
52.5°	1569.8	1517.7	1380.6	1224.6	1158.4
55°	1409.0	1366.4	1238.8	1092.2	1035.5
57.5°	1262.4	1219.9	1101.7	964.5	917.3
60°	1125.3	1063.8	964.5	846.3	808.5
62.5°	974.0	926.7	841.6	742.3	789.6
65°	836.9	789.6	714.0	728.1	605.2
67.5°	685.6	661.9	595.7	529.6	510.6
70°	557.9	529.6	505.9	435.0	416.1
72.5°	444.4	416.1	383.0	345.2	331.0
75°	335.7	312.1	293.1	279.0	307.3
77.5°	231.7	222.2	208.0	193.9	189.1
80°	151.3	146.6	141.8	137.1	132.4
82.5°	89.8	89.8	89.8	89.8	89.8
85°	47.3	52.0	56.7	61.5	66.2
87.5°	28.4	28.4	33.1	37.8	42.6
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)