

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: P546192

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-93-85-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: P546192
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-12-4-LD4-2HI-50-UNV-93-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

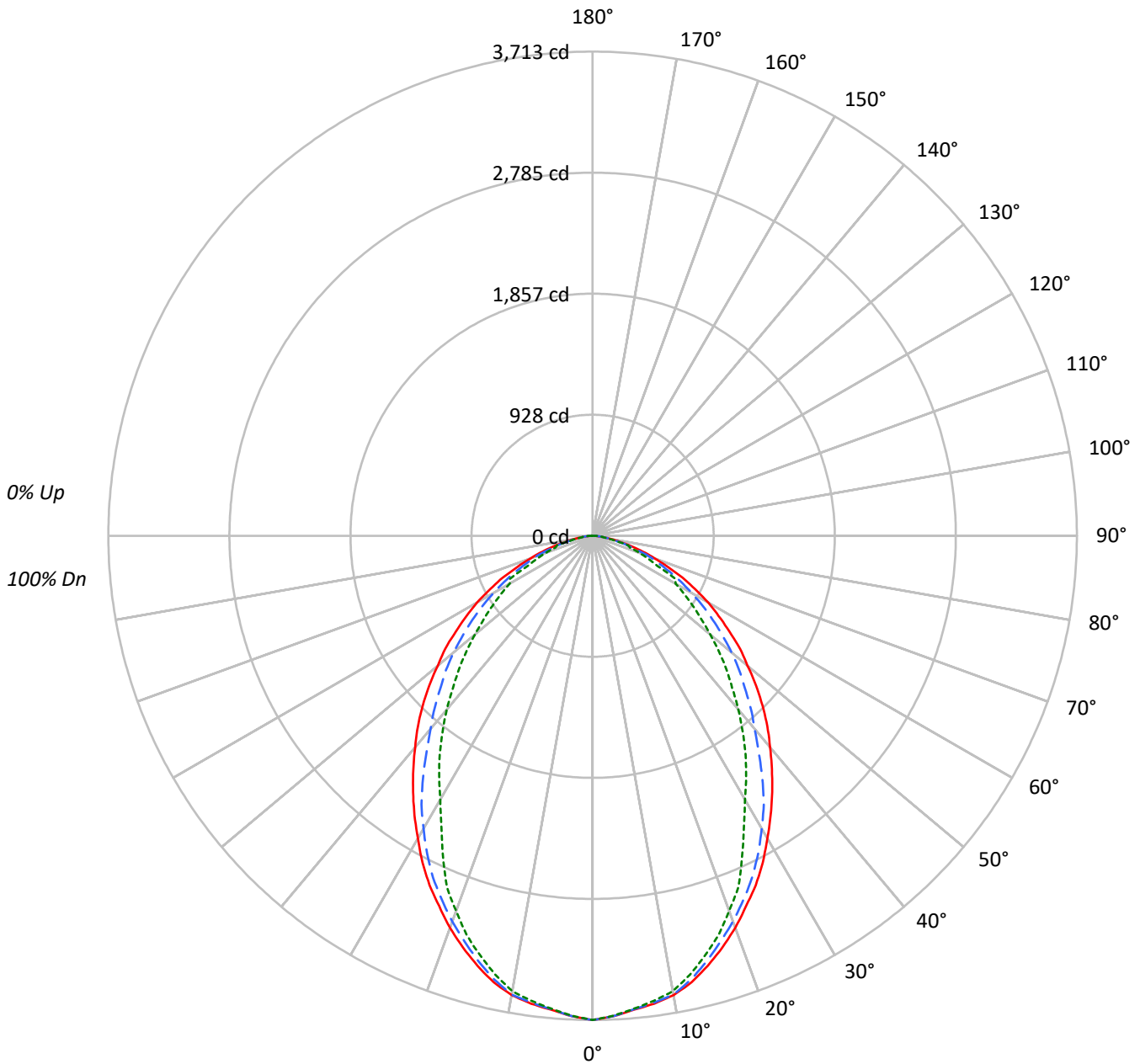
Lumens per Lamp: N/A
Luminaire Lumens: 7290.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P546192

CATALOG NUMBER: FMR-12-4-LD4-2HI-50-UNV-93-85-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°	9993	9993	9993
5°	9857	9845	9834
10°	9772	9760	9689
15°	9508	9412	9281
20°	9159	9011	8765
25°	8782	8591	8056
30°	8324	8057	7257
35°	7884	7446	6713
40°	7435	6786	6108
45°	7009	6274	5522
50°	6488	5823	4924
55°	6002	5277	4411
60°	5499	4714	3951
65°	4839	4127	3499
70°	3986	3614	2972
75°	3169	2768	2901
80°	2129	1996	1863
85°	1325	1590	1856



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.7	4.7
10°-20°	948.7	13.0
20°-30°	1313.4	18.0
30°-40°	1400.4	19.2
40°-50°	1277.6	17.5
50°-60°	1000.9	13.7
60°-70°	652.3	8.9
70°-80°	289.0	4.0
80°-90°	62.1	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°	2607.7	35.8
0°-40°	4008.1	55.0
0°-60°	6286.6	86.2
0°-90°	7290.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7290.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3713	3713	3713	3713	3713	
5°	3649	3645	3645	3640	3640	346
15°	3413	3413	3379	3344	3331	959
25°	2958	2941	2894	2790	2713	1358
35°	2400	2383	2267	2095	2044	1500
45°	1842	1803	1648	1511	1451	1419
55°	1279	1241	1125	992	940	1147
65°	760	717	648	661	550	749
75°	305	283	266	253	279	327
85°	43	47	52	56	60	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3713.4	3713.4	3713.4	3713.4	3713.4
2.5°	3687.7	3687.7	3687.7	3683.4	3683.4
5°	3649.0	3644.7	3644.7	3640.4	3640.4
7.5°	3619.0	3614.7	3610.4	3606.1	3597.5
10°	3576.1	3576.1	3571.8	3550.3	3546.0
12.5°	3507.4	3503.1	3485.9	3455.8	3447.3
15°	3412.9	3412.9	3378.6	3344.2	3331.4
17.5°	3309.9	3305.6	3262.7	3228.3	3211.1
20°	3198.3	3189.7	3146.8	3090.9	3060.9
22.5°	3073.8	3073.8	3022.3	2949.3	2919.2
25°	2957.9	2940.7	2893.5	2790.4	2713.2
27.5°	2824.8	2799.0	2747.5	2601.5	2511.4
30°	2678.8	2665.9	2593.0	2404.1	2335.4
32.5°	2541.4	2520.0	2442.7	2245.2	2189.4
35°	2399.8	2382.6	2266.7	2095.0	2043.5
37.5°	2258.1	2236.6	2090.7	1953.3	1888.9
40°	2116.4	2090.7	1931.8	1807.3	1738.7
42.5°	1983.4	1949.0	1794.5	1661.4	1584.1
45°	1841.7	1803.1	1648.5	1511.1	1451.0
47.5°	1700.0	1665.7	1524.0	1382.3	1313.7
50°	1549.8	1519.7	1390.9	1249.3	1176.3
52.5°	1425.3	1378.0	1253.6	1111.9	1051.8
55°	1279.3	1240.7	1124.8	991.7	940.2
57.5°	1146.2	1107.6	1000.3	875.8	832.8
60°	1021.7	965.9	875.8	768.4	734.1
62.5°	884.4	841.4	764.2	674.0	716.9
65°	759.9	716.9	648.2	661.1	549.5
67.5°	622.5	601.0	540.9	480.8	463.6
70°	506.6	480.8	459.3	395.0	377.8
72.5°	403.5	377.8	347.7	313.4	300.5
75°	304.8	283.3	266.2	253.3	279.0
77.5°	210.4	201.8	188.9	176.0	171.7
80°	137.4	133.1	128.8	124.5	120.2
82.5°	81.6	81.6	81.6	81.6	81.6
85°	42.9	47.2	51.5	55.8	60.1
87.5°	25.8	25.8	30.1	34.3	38.6
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)