

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: P546736

Luminaire Tested: **FMR-24-4-LD4-2HI-40-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: P546736
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-93-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

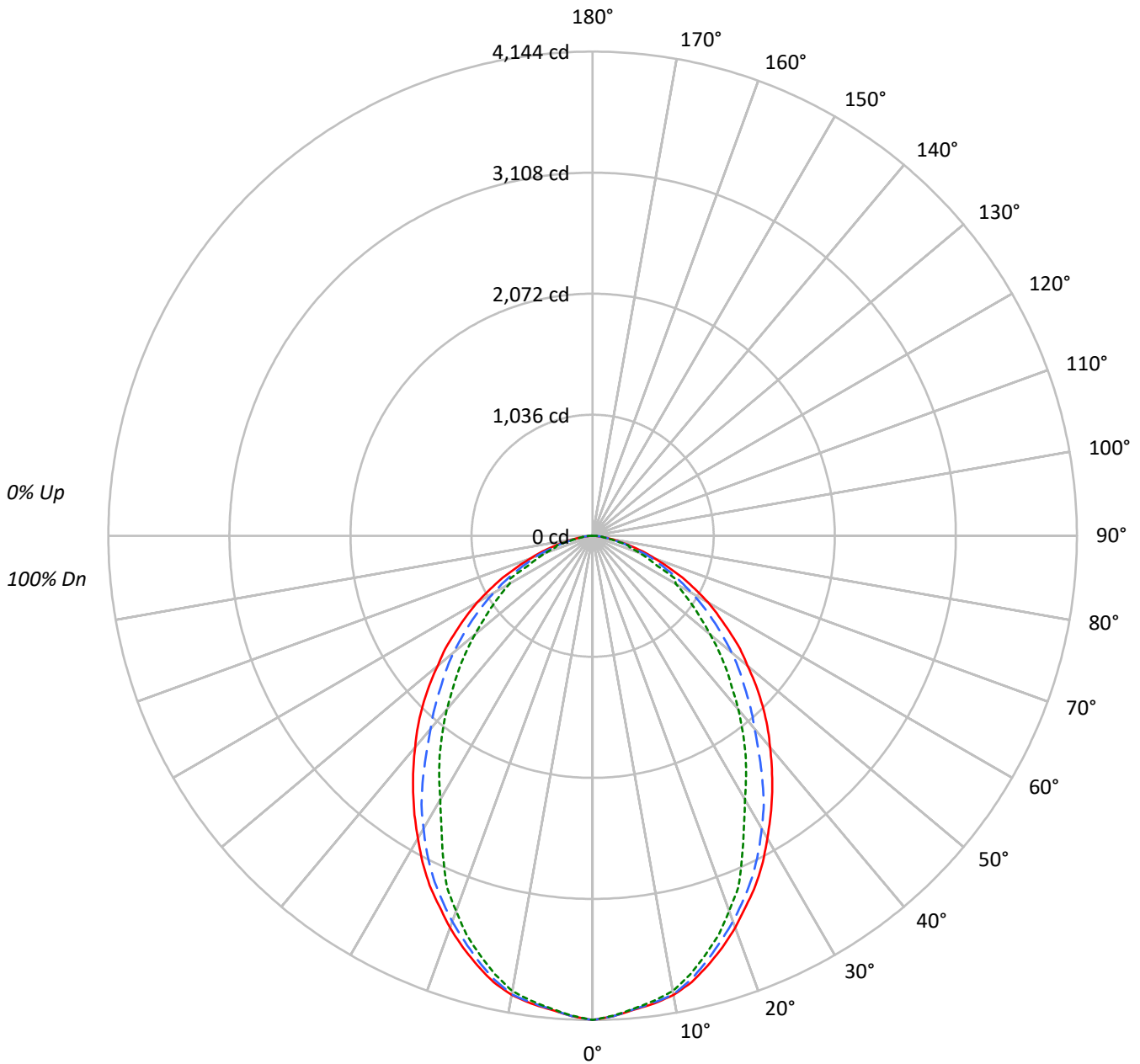
Lumens per Lamp: N/A
Luminaire Lumens: 8135.0 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V): NR
Input Current (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: P546736

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-93-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546736

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-93-85-EDD

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°	5576	5576	5576
5°	5500	5493	5487
10°	5452	5446	5406
15°	5305	5252	5178
20°	5110	5028	4891
25°	4900	4794	4495
30°	4644	4495	4049
35°	4399	4155	3745
40°	4148	3786	3408
45°	3911	3500	3081
50°	3620	3249	2748
55°	3349	2944	2461
60°	3068	2630	2204
65°	2699	2303	1952
70°	2224	2017	1659
75°	1768	1544	1619
80°	1188	1113	1039
85°	739	888	1036



TEST NUMBER: P546736

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-93-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	385.7	4.7
10°-20°	1058.6	13.0
20°-30°	1465.6	18.0
30°-40°	1562.7	19.2
40°-50°	1425.7	17.5
50°-60°	1116.9	13.7
60°-70°	727.9	8.9
70°-80°	322.5	4.0
80°-90°	69.2	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°	2910.0	35.8
0°-40°	4472.7	55.0
0°-60°	7015.3	86.2
0°-90°	8135.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8135.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4144	4144	4144	4144	4144	
5°	4072	4067	4067	4062	4062	387
15°	3808	3808	3770	3732	3718	1071
25°	3301	3282	3229	3114	3028	1515
35°	2678	2659	2529	2338	2280	1674
45°	2055	2012	1840	1686	1619	1583
55°	1428	1384	1255	1107	1049	1280
65°	848	800	723	738	613	836
75°	340	316	297	283	311	365
85°	48	53	58	62	67	66
90°	0	0	0	0	0	



TEST NUMBER: P546736

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-93-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4143.9	4143.9	4143.9	4143.9	4143.9
2.5°	4115.1	4115.1	4115.1	4110.3	4110.3
5°	4072.0	4067.2	4067.2	4062.4	4062.4
7.5°	4038.5	4033.7	4028.9	4024.1	4014.5
10°	3990.6	3990.6	3985.8	3961.8	3957.0
12.5°	3913.9	3909.1	3890.0	3856.4	3846.8
15°	3808.5	3808.5	3770.2	3731.9	3717.5
17.5°	3693.5	3688.8	3640.8	3602.5	3583.4
20°	3569.0	3559.4	3511.5	3449.2	3415.7
22.5°	3430.1	3430.1	3372.6	3291.1	3257.6
25°	3300.7	3281.6	3228.9	3113.9	3027.7
27.5°	3152.2	3123.5	3066.0	2903.1	2802.5
30°	2989.3	2975.0	2893.5	2682.7	2606.1
32.5°	2836.0	2812.1	2725.8	2505.5	2443.2
35°	2677.9	2658.8	2529.4	2337.8	2280.3
37.5°	2519.9	2495.9	2333.0	2179.7	2107.9
40°	2361.8	2333.0	2155.8	2016.8	1940.2
42.5°	2213.3	2174.9	2002.5	1854.0	1767.7
45°	2055.2	2012.0	1839.6	1686.3	1619.2
47.5°	1897.1	1858.7	1700.7	1542.6	1465.9
50°	1729.4	1695.9	1552.2	1394.1	1312.6
52.5°	1590.5	1537.8	1398.9	1240.8	1173.7
55°	1427.6	1384.5	1255.1	1106.6	1049.1
57.5°	1279.1	1236.0	1116.2	977.3	929.4
60°	1140.2	1077.9	977.3	857.5	819.2
62.5°	986.9	939.0	852.7	752.1	800.0
65°	847.9	800.0	723.4	737.8	613.2
67.5°	694.6	670.7	603.6	536.5	517.4
70°	565.3	536.5	512.6	440.7	421.6
72.5°	450.3	421.6	388.0	349.7	335.3
75°	340.1	316.2	297.0	282.6	311.4
77.5°	234.7	225.2	210.8	196.4	191.6
80°	153.3	148.5	143.7	138.9	134.1
82.5°	91.0	91.0	91.0	91.0	91.0
85°	47.9	52.7	57.5	62.3	67.1
87.5°	28.7	28.7	33.5	38.3	43.1
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)