

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: P547184

Luminaire Tested: **FMR-24-4-LD4-3STD-35-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: P547184
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-LD4-3STD-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

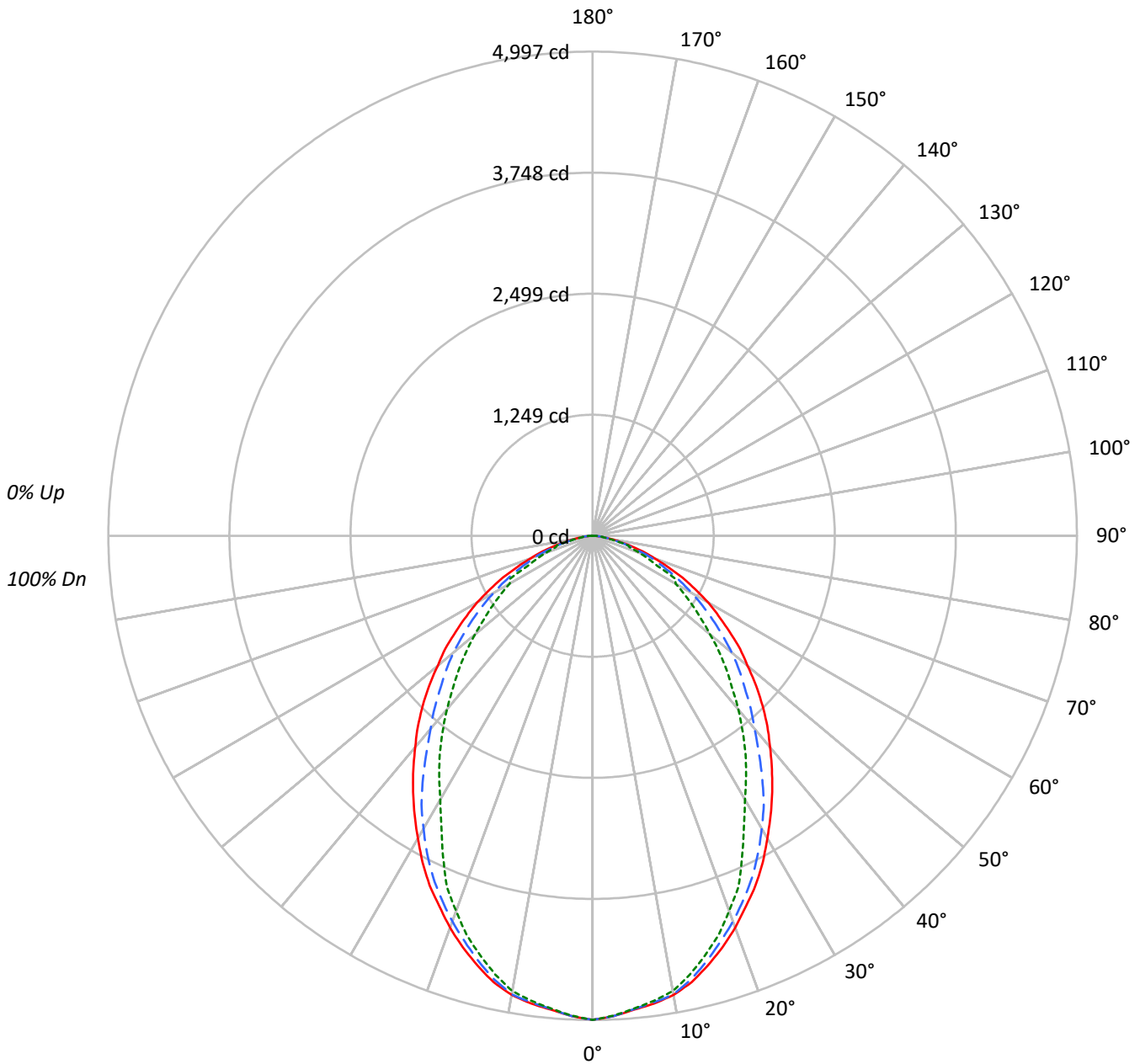
Lumens per Lamp: N/A
Luminaire Lumens: 9809.0 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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: P547184

CATALOG NUMBER: FMR-24-4-LD4-3STD-35-UNV-93-85-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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				100				
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6723	6723	6723
5°	6631	6624	6616
10°	6574	6566	6519
15°	6397	6332	6244
20°	6162	6063	5897
25°	5908	5780	5420
30°	5600	5420	4882
35°	5304	5010	4516
40°	5002	4566	4109
45°	4715	4221	3715
50°	4365	3917	3313
55°	4038	3550	2967
60°	3700	3171	2658
65°	3255	2777	2354
70°	2681	2432	2000
75°	2132	1862	1952
80°	1432	1343	1253
85°	892	1070	1249



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	465.1	4.7
10°-20°	1276.5	13.0
20°-30°	1767.2	18.0
30°-40°	1884.3	19.2
40°-50°	1719.1	17.5
50°-60°	1346.7	13.7
60°-70°	877.8	8.9
70°-80°	388.9	4.0
80°-90°	83.5	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°	3508.8	35.8
0°-40°	5393.1	55.0
0°-60°	8458.9	86.2
0°-90°	9809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9809.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4997	4997	4997	4997	4997	
5°	4910	4904	4904	4898	4898	466
15°	4592	4592	4546	4500	4482	1291
25°	3980	3957	3893	3755	3651	1827
35°	3229	3206	3050	2819	2750	2019
45°	2478	2426	2218	2033	1952	1909
55°	1721	1669	1513	1334	1265	1544
65°	1022	965	872	890	739	1008
75°	410	381	358	341	376	440
85°	58	64	69	75	81	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4996.6	4996.6	4996.6	4996.6	4996.6
2.5°	4961.9	4961.9	4961.9	4956.1	4956.1
5°	4909.9	4904.2	4904.2	4898.4	4898.4
7.5°	4869.5	4863.7	4857.9	4852.2	4840.6
10°	4811.7	4811.7	4806.0	4777.1	4771.3
12.5°	4719.3	4713.5	4690.4	4650.0	4638.4
15°	4592.2	4592.2	4546.0	4499.8	4482.5
17.5°	4453.6	4447.8	4390.1	4343.8	4320.7
20°	4303.4	4291.9	4234.1	4159.0	4118.6
22.5°	4135.9	4135.9	4066.6	3968.4	3927.9
25°	3979.9	3956.8	3893.3	3754.7	3650.7
27.5°	3800.9	3766.2	3696.9	3500.5	3379.2
30°	3604.5	3587.1	3488.9	3234.8	3142.4
32.5°	3419.6	3390.7	3286.8	3021.0	2946.0
35°	3229.0	3205.9	3049.9	2818.9	2749.6
37.5°	3038.4	3009.5	2813.1	2628.3	2541.6
40°	2847.8	2813.1	2599.4	2431.9	2339.4
42.5°	2668.7	2622.5	2414.5	2235.5	2131.5
45°	2478.1	2426.1	2218.1	2033.3	1952.4
47.5°	2287.4	2241.2	2050.6	1860.0	1767.6
50°	2085.3	2044.8	1871.5	1680.9	1582.7
52.5°	1917.8	1854.2	1686.7	1496.1	1415.2
55°	1721.4	1669.4	1513.4	1334.3	1265.0
57.5°	1542.3	1490.3	1345.9	1178.4	1120.6
60°	1374.8	1299.7	1178.4	1034.0	987.8
62.5°	1189.9	1132.2	1028.2	906.9	964.7
65°	1022.4	964.7	872.2	889.6	739.4
67.5°	837.6	808.7	727.8	647.0	623.8
70°	681.6	647.0	618.1	531.4	508.3
72.5°	543.0	508.3	467.9	421.7	404.3
75°	410.1	381.2	358.1	340.8	375.5
77.5°	283.0	271.5	254.2	236.8	231.1
80°	184.8	179.1	173.3	167.5	161.7
82.5°	109.8	109.8	109.8	109.8	109.8
85°	57.8	63.5	69.3	75.1	80.9
87.5°	34.7	34.7	40.4	46.2	52.0
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)