

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: P546688

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-81-85-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: P546688
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-35-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

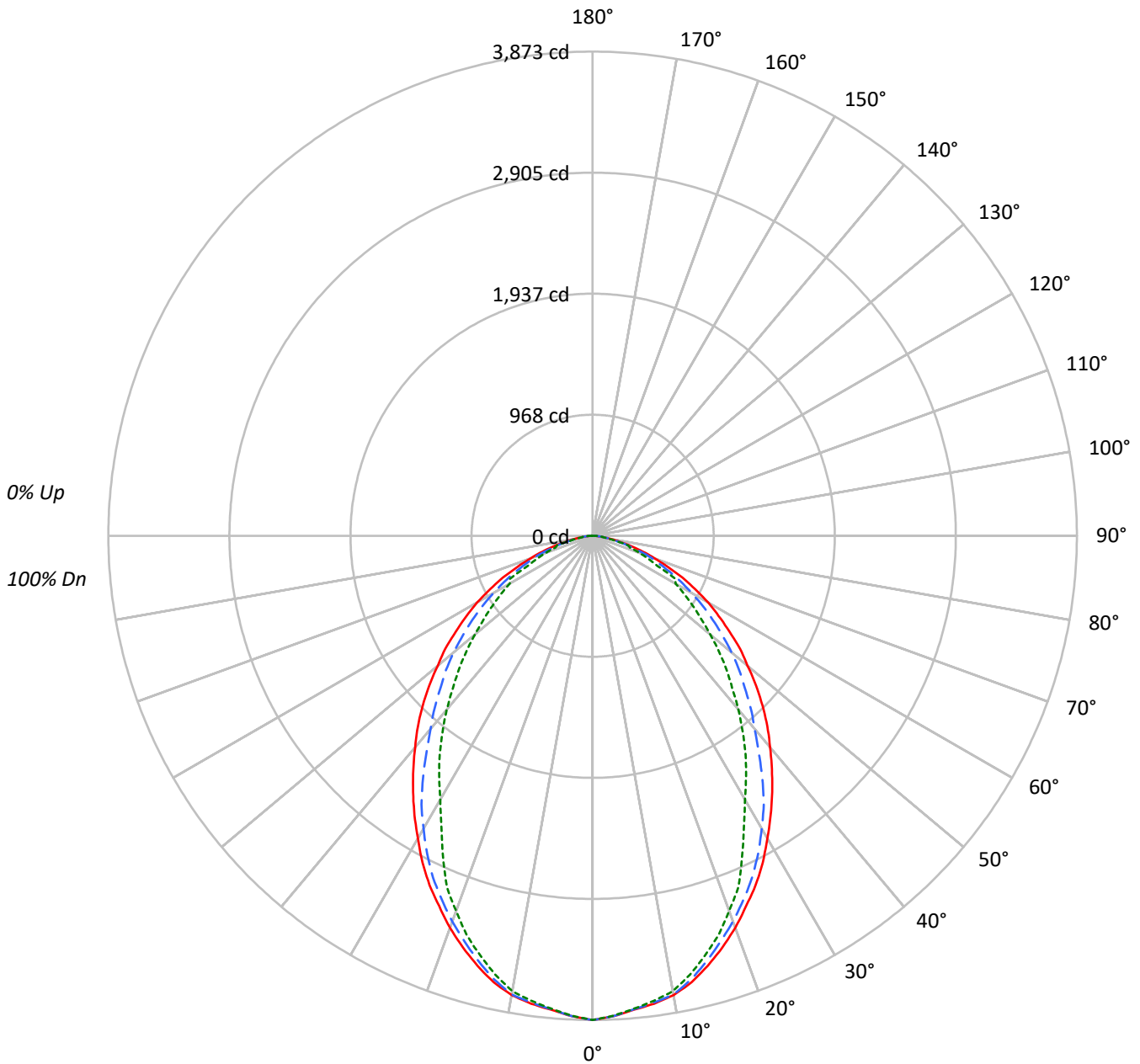
Lumens per Lamp: N/A
Luminaire Lumens: 7604.0 lumens
Efficiency: N/A
Efficacy: 88.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	5212	5212	5212
5°	5141	5135	5129
10°	5096	5090	5053
15°	4959	4909	4840
20°	4777	4700	4571
25°	4580	4481	4201
30°	4341	4202	3785
35°	4111	3883	3501
40°	3877	3539	3185
45°	3655	3272	2880
50°	3384	3037	2568
55°	3130	2752	2301
60°	2868	2458	2060
65°	2523	2153	1825
70°	2079	1885	1550
75°	1653	1443	1513
80°	1110	1041	972
85°	692	829	968



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.6	4.7
10°-20°	989.5	13.0
20°-30°	1369.9	18.0
30°-40°	1460.7	19.2
40°-50°	1332.6	17.5
50°-60°	1044.0	13.7
60°-70°	680.4	8.9
70°-80°	301.5	4.0
80°-90°	64.7	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°	2720.0	35.8
0°-40°	4180.8	55.0
0°-60°	6557.4	86.2
0°-90°	7604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7604.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3873	3873	3873	3873	3873	
5°	3806	3802	3802	3797	3797	361
15°	3560	3560	3524	3488	3475	1001
25°	3085	3067	3018	2911	2830	1416
35°	2503	2485	2364	2185	2132	1565
45°	1921	1881	1720	1576	1514	1480
55°	1334	1294	1173	1034	981	1197
65°	793	748	676	690	573	781
75°	318	296	278	264	291	341
85°	45	49	54	58	63	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3873.4	3873.4	3873.4	3873.4	3873.4
2.5°	3846.5	3846.5	3846.5	3842.0	3842.0
5°	3806.2	3801.7	3801.7	3797.3	3797.3
7.5°	3774.9	3770.4	3765.9	3761.4	3752.5
10°	3730.1	3730.1	3725.6	3703.2	3698.7
12.5°	3658.4	3654.0	3636.0	3604.7	3595.7
15°	3559.9	3559.9	3524.1	3488.3	3474.8
17.5°	3452.5	3448.0	3403.2	3367.4	3349.5
20°	3336.0	3327.1	3282.3	3224.1	3192.7
22.5°	3206.2	3206.2	3152.4	3076.3	3045.0
25°	3085.3	3067.4	3018.1	2910.6	2830.0
27.5°	2946.5	2919.6	2865.9	2713.6	2619.6
30°	2794.2	2780.8	2704.6	2507.6	2436.0
32.5°	2650.9	2628.5	2547.9	2341.9	2283.7
35°	2503.1	2485.2	2364.3	2185.2	2131.5
37.5°	2355.4	2333.0	2180.7	2037.4	1970.3
40°	2207.6	2180.7	2015.1	1885.2	1813.5
42.5°	2068.8	2033.0	1871.8	1732.9	1652.3
45°	1921.0	1880.7	1719.5	1576.2	1513.5
47.5°	1773.2	1737.4	1589.7	1441.9	1370.2
50°	1616.5	1585.2	1450.8	1303.1	1226.9
52.5°	1486.7	1437.4	1307.5	1159.8	1097.1
55°	1334.4	1294.1	1173.2	1034.4	980.7
57.5°	1195.6	1155.3	1043.3	913.5	868.7
60°	1065.7	1007.5	913.5	801.5	765.7
62.5°	922.4	877.7	797.1	703.0	747.8
65°	792.6	747.8	676.2	689.6	573.2
67.5°	649.3	626.9	564.2	501.5	483.6
70°	528.4	501.5	479.1	412.0	394.1
72.5°	420.9	394.1	362.7	326.9	313.5
75°	317.9	295.5	277.6	264.2	291.1
77.5°	219.4	210.5	197.0	183.6	179.1
80°	143.3	138.8	134.3	129.9	125.4
82.5°	85.1	85.1	85.1	85.1	85.1
85°	44.8	49.3	53.7	58.2	62.7
87.5°	26.9	26.9	31.3	35.8	40.3
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)