

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: P546706

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-93-87-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: P546706
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-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

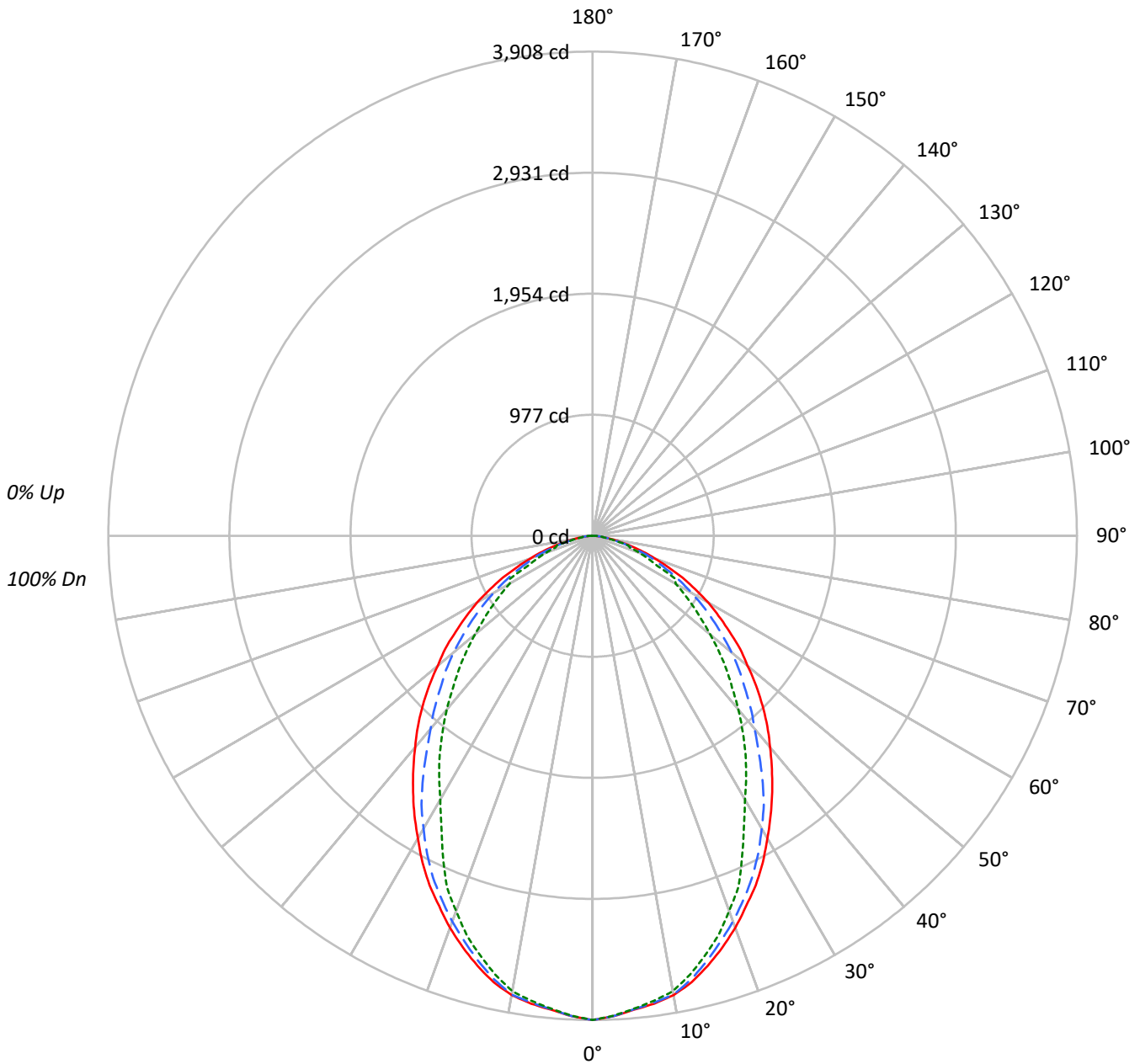
Lumens per Lamp: N/A
Luminaire Lumens: 7673.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P546706

CATALOG NUMBER: FMR-24-4-LD4-2HI-35-UNV-93-87-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°	5259	5259	5259
5°	5187	5181	5175
10°	5142	5136	5099
15°	5004	4953	4884
20°	4820	4742	4613
25°	4622	4521	4240
30°	4381	4240	3819
35°	4149	3919	3533
40°	3913	3571	3214
45°	3688	3302	2906
50°	3414	3064	2592
55°	3159	2777	2321
60°	2894	2481	2079
65°	2546	2172	1841
70°	2098	1902	1564
75°	1668	1456	1527
80°	1120	1051	980
85°	698	837	977



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	363.8	4.7
10°-20°	998.5	13.0
20°-30°	1382.4	18.0
30°-40°	1474.0	19.2
40°-50°	1344.7	17.5
50°-60°	1053.5	13.7
60°-70°	686.6	8.9
70°-80°	304.2	4.0
80°-90°	65.3	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°	2744.7	35.8
0°-40°	4218.7	55.0
0°-60°	6616.9	86.2
0°-90°	7673.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7673.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3908	3908	3908	3908	3908	
5°	3841	3836	3836	3832	3832	365
15°	3592	3592	3556	3520	3506	1010
25°	3113	3095	3046	2937	2856	1429
35°	2526	2508	2386	2205	2151	1579
45°	1938	1898	1735	1590	1527	1493
55°	1346	1306	1184	1044	990	1208
65°	800	755	682	696	578	788
75°	321	298	280	267	294	344
85°	45	50	54	59	63	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3908.5	3908.5	3908.5	3908.5	3908.5
2.5°	3881.4	3881.4	3881.4	3876.9	3876.9
5°	3840.7	3836.2	3836.2	3831.7	3831.7
7.5°	3809.1	3804.6	3800.1	3795.6	3786.5
10°	3763.9	3763.9	3759.4	3736.8	3732.3
12.5°	3691.6	3687.1	3669.0	3637.4	3628.4
15°	3592.2	3592.2	3556.1	3519.9	3506.4
17.5°	3483.8	3479.3	3434.1	3397.9	3379.9
20°	3366.3	3357.3	3312.1	3253.3	3221.7
22.5°	3235.3	3235.3	3181.0	3104.2	3072.6
25°	3113.3	3095.2	3045.5	2937.0	2855.7
27.5°	2973.2	2946.1	2891.9	2738.2	2643.3
30°	2819.6	2806.0	2729.2	2530.4	2458.1
32.5°	2675.0	2652.4	2571.0	2363.2	2304.4
35°	2525.9	2507.8	2385.8	2205.0	2150.8
37.5°	2376.7	2354.2	2200.5	2055.9	1988.2
40°	2227.6	2200.5	2033.3	1902.3	1830.0
42.5°	2087.6	2051.4	1888.7	1748.7	1667.3
45°	1938.4	1897.8	1735.1	1590.5	1527.3
47.5°	1789.3	1753.2	1604.1	1455.0	1382.7
50°	1631.2	1599.6	1464.0	1314.9	1238.1
52.5°	1500.2	1450.4	1319.4	1170.3	1107.0
55°	1346.5	1305.9	1183.9	1043.8	989.6
57.5°	1206.4	1165.8	1052.8	921.8	876.6
60°	1075.4	1016.7	921.8	808.8	772.7
62.5°	930.8	885.6	804.3	709.4	754.6
65°	799.8	754.6	682.3	695.9	578.4
67.5°	655.2	632.6	569.3	506.1	488.0
70°	533.2	506.1	483.5	415.7	397.6
72.5°	424.7	397.6	366.0	329.9	316.3
75°	320.8	298.2	280.1	266.6	293.7
77.5°	221.4	212.4	198.8	185.3	180.7
80°	144.6	140.1	135.6	131.0	126.5
82.5°	85.9	85.9	85.9	85.9	85.9
85°	45.2	49.7	54.2	58.7	63.3
87.5°	27.1	27.1	31.6	36.1	40.7
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)