

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: P546991

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-93-84-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: P546991
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-LD4-3HI-35-UNV-93-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

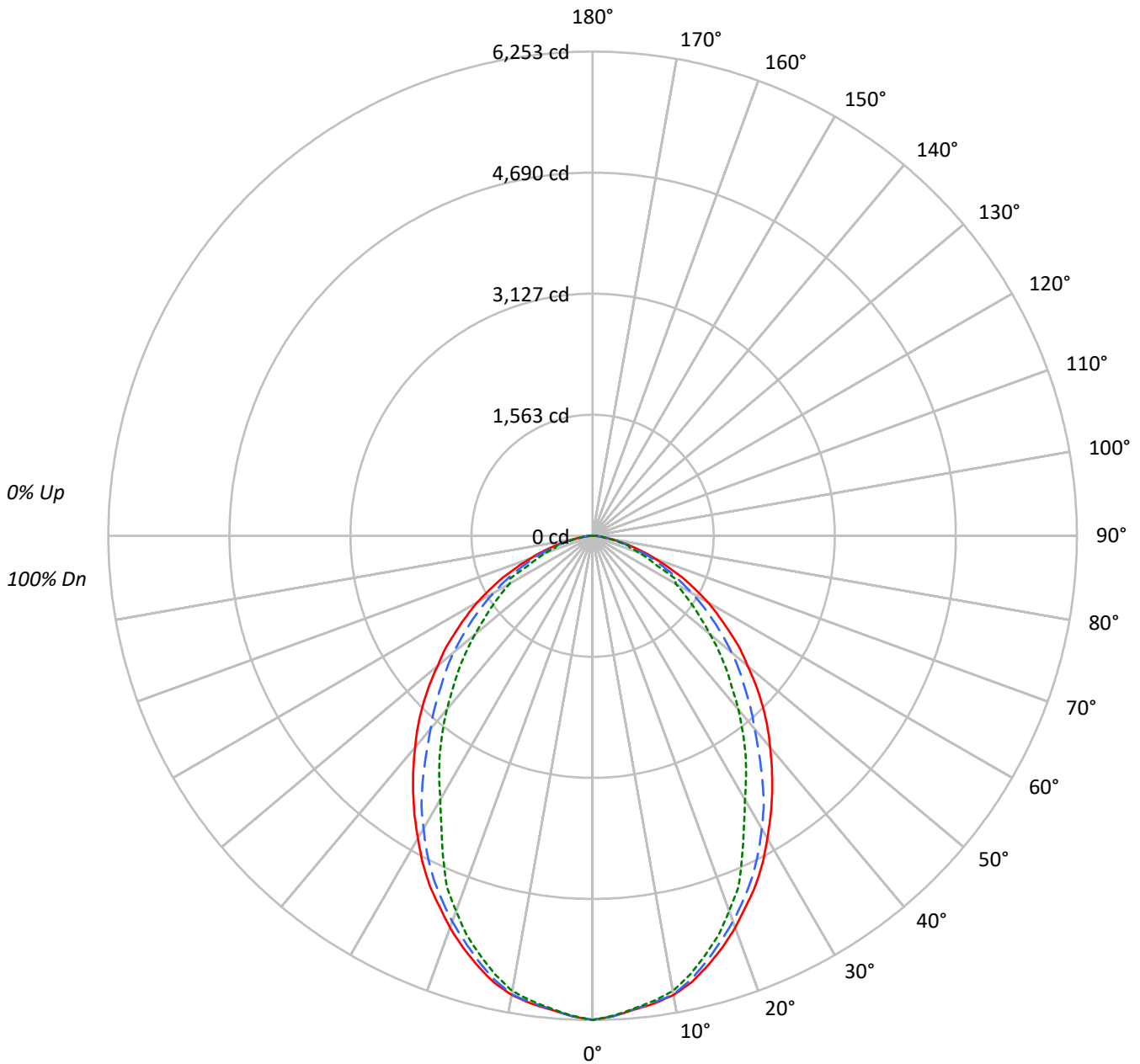
Lumens per Lamp: N/A
Luminaire Lumens: 12275.0 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
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°	8413	8413	8413
5°	8299	8289	8279
10°	8227	8217	8158
15°	8005	7924	7814
20°	7711	7587	7380
25°	7394	7233	6782
30°	7008	6783	6109
35°	6637	6269	5652
40°	6259	5713	5142
45°	5901	5282	4649
50°	5462	4903	4146
55°	5053	4443	3714
60°	4630	3968	3326
65°	4074	3475	2946
70°	3356	3043	2502
75°	2668	2330	2443
80°	1792	1681	1568
85°	1116	1338	1562



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	582.0	4.7
10°-20°	1597.4	13.0
20°-30°	2211.5	18.0
30°-40°	2358.1	19.2
40°-50°	2151.2	17.5
50°-60°	1685.3	13.7
60°-70°	1098.4	8.9
70°-80°	486.6	4.0
80°-90°	104.5	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°	4390.9	35.8
0°-40°	6748.9	55.0
0°-60°	10585.5	86.2
0°-90°	12275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6253	6253	6253	6253	6253	
5°	6144	6137	6137	6130	6130	583
15°	5747	5747	5689	5631	5609	1616
25°	4980	4952	4872	4699	4568	2287
35°	4041	4012	3817	3528	3441	2526
45°	3101	3036	2776	2544	2443	2389
55°	2154	2089	1894	1670	1583	1932
65°	1280	1207	1092	1113	925	1261
75°	513	477	448	426	470	550
85°	72	80	87	94	101	100
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6252.7	6252.7	6252.7	6252.7	6252.7
2.5°	6209.3	6209.3	6209.3	6202.1	6202.1
5°	6144.3	6137.1	6137.1	6129.8	6129.8
7.5°	6093.7	6086.5	6079.2	6072.0	6057.5
10°	6021.4	6021.4	6014.2	5978.0	5970.8
12.5°	5905.7	5898.5	5869.6	5819.0	5804.5
15°	5746.7	5746.7	5688.9	5631.1	5609.4
17.5°	5573.2	5566.0	5493.7	5435.9	5407.0
20°	5385.3	5370.8	5298.5	5204.6	5154.0
22.5°	5175.7	5175.7	5088.9	4966.0	4915.4
25°	4980.5	4951.6	4872.1	4698.6	4568.5
27.5°	4756.4	4713.0	4626.3	4380.5	4228.7
30°	4510.6	4488.9	4366.1	4048.0	3932.3
32.5°	4279.3	4243.2	4113.1	3780.5	3686.6
35°	4040.8	4011.9	3816.7	3527.5	3440.8
37.5°	3802.2	3766.1	3520.3	3289.0	3180.6
40°	3563.7	3520.3	3252.9	3043.2	2927.6
42.5°	3339.6	3281.8	3021.5	2797.5	2667.3
45°	3101.1	3036.0	2775.8	2544.5	2443.3
47.5°	2862.5	2804.7	2566.1	2327.6	2211.9
50°	2609.5	2558.9	2342.1	2103.5	1980.6
52.5°	2399.9	2320.4	2110.7	1872.2	1771.0
55°	2154.1	2089.1	1893.9	1669.8	1583.1
57.5°	1930.0	1865.0	1684.3	1474.6	1402.3
60°	1720.4	1626.4	1474.6	1293.9	1236.1
62.5°	1489.1	1416.8	1286.7	1134.9	1207.2
65°	1279.5	1207.2	1091.5	1113.2	925.3
67.5°	1048.1	1012.0	910.8	809.6	780.7
70°	853.0	809.6	773.5	665.0	636.1
72.5°	679.5	636.1	585.5	527.7	506.0
75°	513.2	477.1	448.2	426.5	469.9
77.5°	354.2	339.7	318.1	296.4	289.1
80°	231.3	224.1	216.9	209.6	202.4
82.5°	137.3	137.3	137.3	137.3	137.3
85°	72.3	79.5	86.7	94.0	101.2
87.5°	43.4	43.4	50.6	57.8	65.1
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)