

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: P547474

Luminaire Tested: **FMR-24-4-LD4-4STD-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: P547474
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-LD4-4STD-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

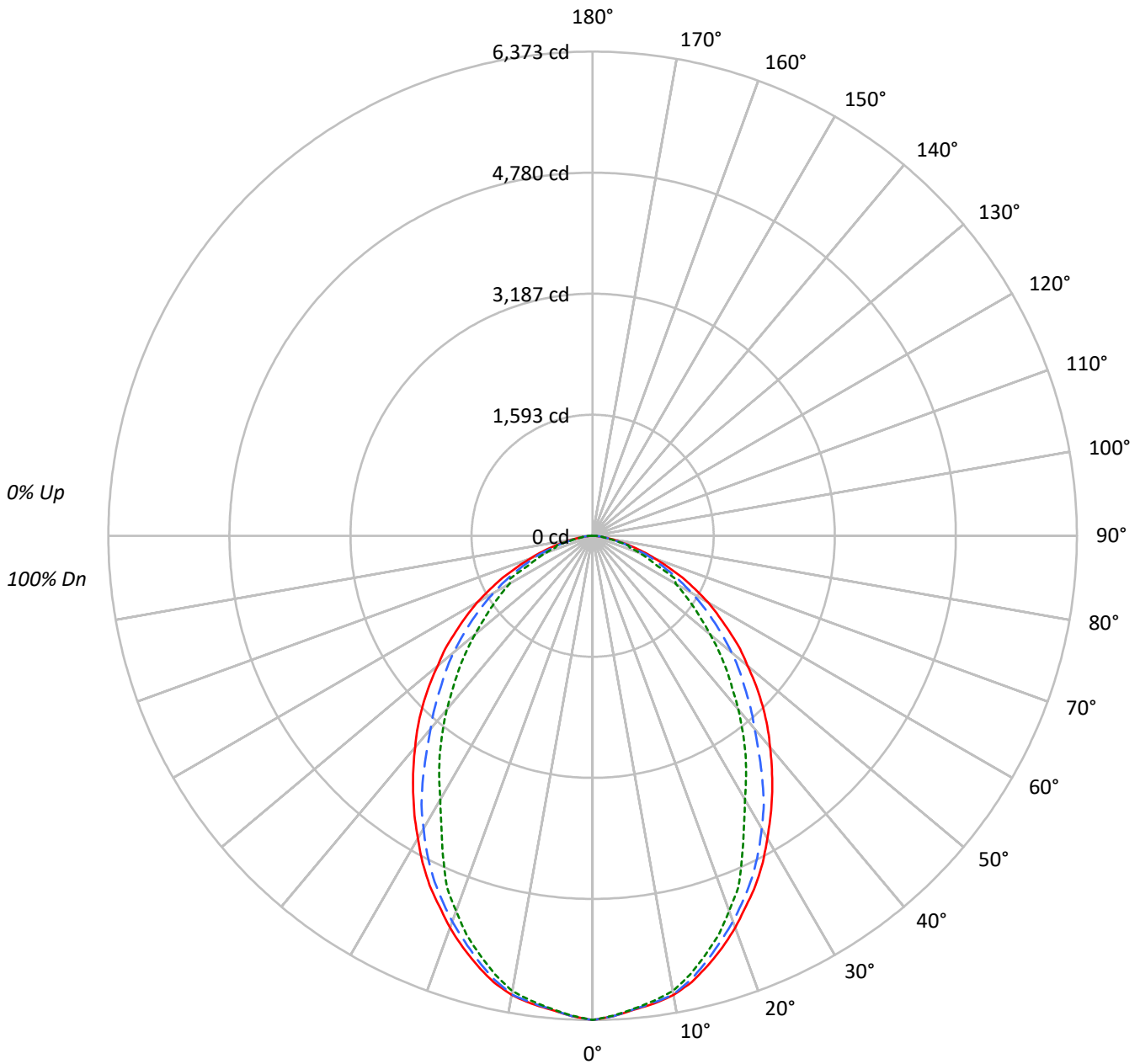
Lumens per Lamp: N/A
Luminaire Lumens: 12511.0 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	8575	8575	8575
5°	8458	8448	8438
10°	8385	8375	8314
15°	8159	8077	7964
20°	7859	7733	7522
25°	7536	7372	6913
30°	7143	6914	6227
35°	6765	6390	5760
40°	6380	5823	5241
45°	6014	5383	4738
50°	5567	4997	4226
55°	5150	4528	3785
60°	4719	4045	3390
65°	4152	3542	3002
70°	3420	3101	2550
75°	2719	2375	2490
80°	1827	1712	1598
85°	1138	1365	1592



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	593.2	4.7
10°-20°	1628.1	13.0
20°-30°	2254.0	18.0
30°-40°	2403.4	19.2
40°-50°	2192.6	17.5
50°-60°	1717.7	13.7
60°-70°	1119.5	8.9
70°-80°	496.0	4.0
80°-90°	106.5	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°	4475.3	35.8
0°-40°	6878.7	55.0
0°-60°	10789.0	86.2
0°-90°	12511.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12511.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6373	6373	6373	6373	6373	
5°	6262	6255	6255	6248	6248	594
15°	5857	5857	5798	5739	5717	1647
25°	5076	5047	4966	4789	4656	2331
35°	4118	4089	3890	3595	3507	2575
45°	3161	3094	2829	2593	2490	2435
55°	2196	2129	1930	1702	1614	1969
65°	1304	1230	1112	1135	943	1285
75°	523	486	457	435	479	561
85°	74	81	88	96	103	102
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6372.9	6372.9	6372.9	6372.9	6372.9
2.5°	6328.7	6328.7	6328.7	6321.4	6321.4
5°	6262.4	6255.1	6255.1	6247.7	6247.7
7.5°	6210.9	6203.5	6196.1	6188.7	6174.0
10°	6137.2	6137.2	6129.8	6093.0	6085.6
12.5°	6019.3	6011.9	5982.5	5930.9	5916.1
15°	5857.2	5857.2	5798.3	5739.3	5717.2
17.5°	5680.4	5673.0	5599.3	5540.4	5510.9
20°	5488.8	5474.1	5400.4	5304.6	5253.1
22.5°	5275.2	5275.2	5186.8	5061.5	5009.9
25°	5076.2	5046.8	4965.7	4788.9	4656.3
27.5°	4847.9	4803.6	4715.2	4464.7	4310.0
30°	4597.4	4575.3	4450.0	4125.8	4008.0
32.5°	4361.6	4324.8	4192.1	3853.2	3757.5
35°	4118.5	4089.0	3890.1	3595.4	3507.0
37.5°	3875.3	3838.5	3588.0	3352.2	3241.7
40°	3632.2	3588.0	3315.4	3101.7	2983.9
42.5°	3403.8	3344.9	3079.6	2851.2	2718.6
45°	3160.7	3094.4	2829.1	2593.4	2490.2
47.5°	2917.6	2858.6	2615.5	2372.4	2254.5
50°	2659.7	2608.1	2387.1	2144.0	2018.7
52.5°	2446.0	2365.0	2151.3	1908.2	1805.1
55°	2195.5	2129.2	1930.3	1701.9	1613.5
57.5°	1967.1	1900.8	1716.6	1503.0	1429.3
60°	1753.5	1657.7	1503.0	1318.8	1259.9
62.5°	1517.7	1444.0	1311.4	1156.7	1230.4
65°	1304.1	1230.4	1112.5	1134.6	943.0
67.5°	1068.3	1031.5	928.3	825.2	795.7
70°	869.4	825.2	788.3	677.8	648.3
72.5°	692.6	648.3	596.8	537.8	515.7
75°	523.1	486.3	456.8	434.7	478.9
77.5°	361.0	346.3	324.2	302.1	294.7
80°	235.8	228.4	221.0	213.7	206.3
82.5°	140.0	140.0	140.0	140.0	140.0
85°	73.7	81.0	88.4	95.8	103.1
87.5°	44.2	44.2	51.6	58.9	66.3
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)