

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: P547504

Luminaire Tested: **FMR-24-4-LD4-4STD-40-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: P547504
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

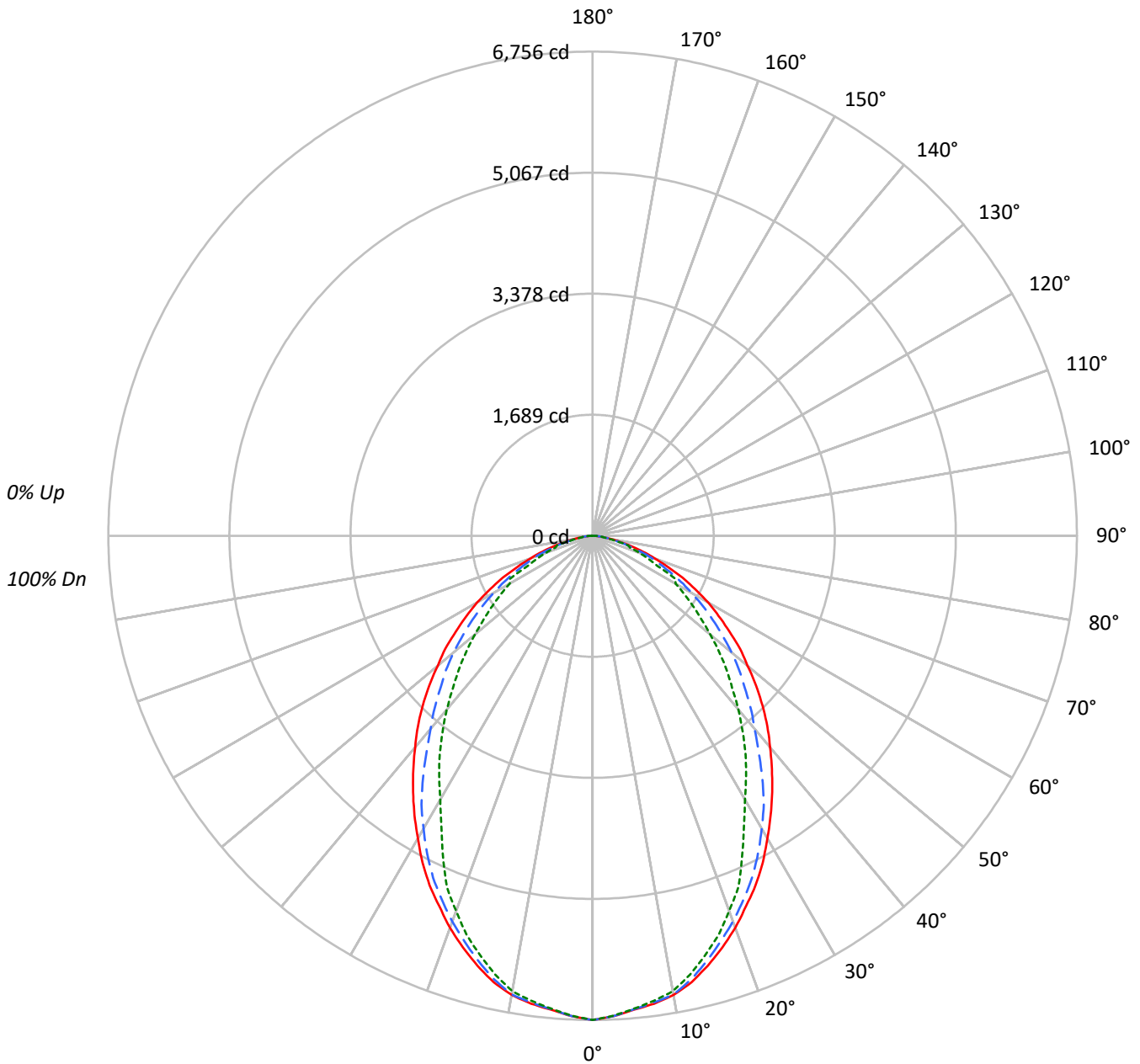
Lumens per Lamp: N/A
Luminaire Lumens: 13264.0 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
Input Voltage (V): NR
Input Current (A_{in}): 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°	9091	9091	9091
5°	8967	8957	8946
10°	8890	8879	8815
15°	8650	8563	8443
20°	8332	8198	7974
25°	7990	7816	7329
30°	7573	7330	6602
35°	7172	6774	6107
40°	6764	6174	5556
45°	6376	5707	5024
50°	5902	5297	4480
55°	5460	4801	4013
60°	5003	4288	3594
65°	4401	3755	3183
70°	3626	3288	2704
75°	2883	2518	2639
80°	1937	1815	1695
85°	1206	1447	1689



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	628.9	4.7
10°-20°	1726.1	13.0
20°-30°	2389.6	18.0
30°-40°	2548.0	19.2
40°-50°	2324.6	17.5
50°-60°	1821.1	13.7
60°-70°	1186.9	8.9
70°-80°	525.8	4.0
80°-90°	112.9	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°	4744.6	35.8
0°-40°	7292.7	55.0
0°-60°	11438.3	86.2
0°-90°	13264.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13264.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6756	6756	6756	6756	6756	
5°	6639	6632	6632	6624	6624	630
15°	6210	6210	6147	6085	6061	1746
25°	5382	5350	5265	5077	4936	2471
35°	4366	4335	4124	3812	3718	2730
45°	3351	3281	2999	2750	2640	2581
55°	2328	2257	2046	1804	1711	2088
65°	1382	1304	1180	1203	1000	1362
75°	555	516	484	461	508	594
85°	78	86	94	102	109	108
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6756.5	6756.5	6756.5	6756.5	6756.5
2.5°	6709.6	6709.6	6709.6	6701.8	6701.8
5°	6639.3	6631.5	6631.5	6623.7	6623.7
7.5°	6584.7	6576.9	6569.0	6561.2	6545.6
10°	6506.6	6506.6	6498.7	6459.7	6451.9
12.5°	6381.6	6373.8	6342.5	6287.8	6272.2
15°	6209.7	6209.7	6147.2	6084.8	6061.3
17.5°	6022.3	6014.5	5936.4	5873.9	5842.6
20°	5819.2	5803.6	5725.5	5623.9	5569.2
22.5°	5592.7	5592.7	5498.9	5366.1	5311.5
25°	5381.8	5350.5	5264.6	5077.1	4936.5
27.5°	5139.6	5092.8	4999.0	4733.5	4569.4
30°	4874.1	4850.6	4717.8	4374.2	4249.2
32.5°	4624.1	4585.0	4444.5	4085.1	3983.6
35°	4366.3	4335.1	4124.2	3811.8	3718.0
37.5°	4108.6	4069.5	3804.0	3554.0	3436.8
40°	3850.8	3804.0	3514.9	3288.4	3163.5
42.5°	3608.7	3546.2	3265.0	3022.9	2882.3
45°	3350.9	3280.6	2999.4	2749.5	2640.1
47.5°	3093.2	3030.7	2772.9	2515.1	2390.2
50°	2819.8	2765.1	2530.8	2273.0	2140.2
52.5°	2593.2	2507.3	2280.8	2023.0	1913.7
55°	2327.7	2257.4	2046.5	1804.3	1710.6
57.5°	2085.5	2015.2	1820.0	1593.4	1515.3
60°	1859.0	1757.5	1593.4	1398.2	1335.7
62.5°	1609.1	1531.0	1390.4	1226.3	1304.4
65°	1382.5	1304.4	1179.5	1202.9	999.8
67.5°	1132.6	1093.5	984.2	874.8	843.6
70°	921.7	874.8	835.8	718.6	687.4
72.5°	734.2	687.4	632.7	570.2	546.8
75°	554.6	515.5	484.3	460.8	507.7
77.5°	382.7	367.1	343.7	320.3	312.4
80°	250.0	242.1	234.3	226.5	218.7
82.5°	148.4	148.4	148.4	148.4	148.4
85°	78.1	85.9	93.7	101.5	109.4
87.5°	46.9	46.9	54.7	62.5	70.3
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)