

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: P547408

Luminaire Tested: **FMR-24-4-LD4-4LO-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: P547408
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-LD4-4LO-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

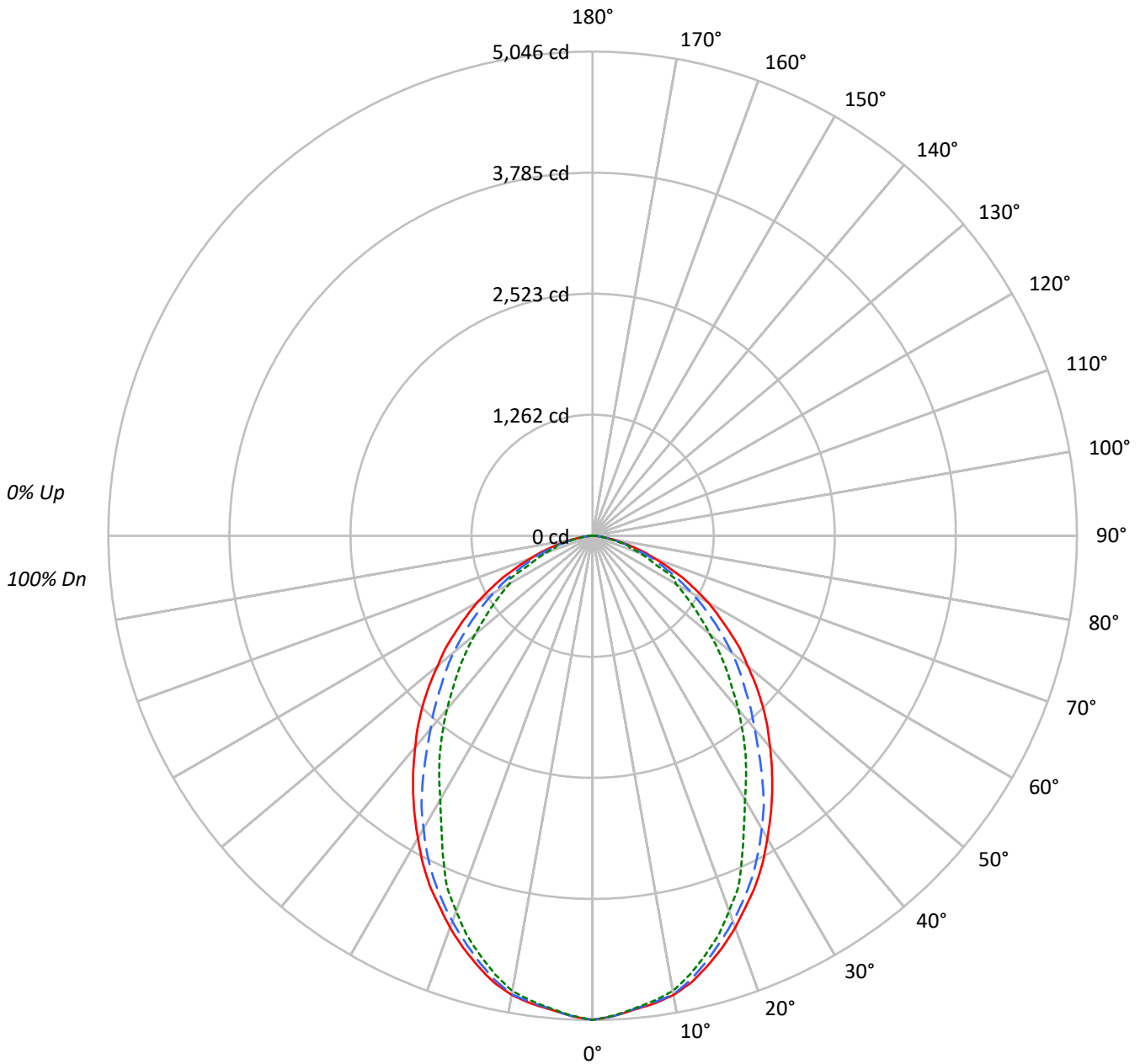
Lumens per Lamp: N/A
Luminaire Lumens: 9905.0 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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°	6789	6789	6789
5°	6696	6688	6681
10°	6638	6630	6583
15°	6459	6394	6305
20°	6222	6122	5955
25°	5966	5836	5473
30°	5655	5474	4930
35°	5356	5059	4561
40°	5051	4610	4149
45°	4761	4262	3751
50°	4408	3956	3345
55°	4077	3585	2997
60°	3736	3202	2684
65°	3287	2804	2377
70°	2708	2455	2019
75°	2153	1880	1971
80°	1447	1356	1265
85°	900	1081	1261



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	469.7	4.7
10°-20°	1289.0	13.0
20°-30°	1784.5	18.0
30°-40°	1902.8	19.2
40°-50°	1735.9	17.5
50°-60°	1359.9	13.7
60°-70°	886.3	8.9
70°-80°	392.7	4.0
80°-90°	84.3	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°	3543.1	35.8
0°-40°	5445.9	55.0
0°-60°	8541.7	86.2
0°-90°	9905.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9905.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5046	5046	5046	5046	5046	
5°	4958	4952	4952	4946	4946	471
15°	4637	4637	4590	4544	4526	1304
25°	4019	3996	3931	3791	3686	1845
35°	3261	3237	3080	2846	2776	2038
45°	2502	2450	2240	2053	1972	1928
55°	1738	1686	1528	1347	1277	1559
65°	1032	974	881	898	747	1017
75°	414	385	362	344	379	444
85°	58	64	70	76	82	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5045.5	5045.5	5045.5	5045.5	5045.5
2.5°	5010.5	5010.5	5010.5	5004.6	5004.6
5°	4958.0	4952.1	4952.1	4946.3	4946.3
7.5°	4917.2	4911.3	4905.5	4899.7	4888.0
10°	4858.8	4858.8	4853.0	4823.8	4818.0
12.5°	4765.5	4759.7	4736.3	4695.5	4683.8
15°	4637.2	4637.2	4590.5	4543.8	4526.3
17.5°	4497.2	4491.3	4433.0	4386.4	4363.0
20°	4345.5	4333.9	4275.5	4199.7	4158.9
22.5°	4176.4	4176.4	4106.4	4007.2	3966.4
25°	4018.9	3995.5	3931.4	3791.4	3686.4
27.5°	3838.1	3803.1	3733.1	3534.7	3412.3
30°	3639.7	3622.2	3523.1	3266.4	3173.1
32.5°	3453.1	3423.9	3318.9	3050.6	2974.8
35°	3260.6	3237.3	3079.8	2846.5	2776.5
37.5°	3068.1	3039.0	2840.6	2654.0	2566.5
40°	2875.6	2840.6	2624.8	2455.7	2362.3
42.5°	2694.8	2648.1	2438.2	2257.3	2152.3
45°	2502.3	2449.8	2239.8	2053.2	1971.5
47.5°	2309.8	2263.2	2070.7	1878.2	1784.9
50°	2105.7	2064.9	1889.9	1697.4	1598.2
52.5°	1936.5	1872.4	1703.2	1510.7	1429.1
55°	1738.2	1685.7	1528.2	1347.4	1277.4
57.5°	1557.4	1504.9	1359.1	1189.9	1131.6
60°	1388.2	1312.4	1189.9	1044.1	997.4
62.5°	1201.6	1143.3	1038.3	915.8	974.1
65°	1032.4	974.1	880.8	898.3	746.6
67.5°	845.8	816.6	734.9	653.3	630.0
70°	688.3	653.3	624.1	536.6	513.3
72.5°	548.3	513.3	472.5	425.8	408.3
75°	414.1	385.0	361.6	344.1	379.1
77.5°	285.8	274.1	256.6	239.1	233.3
80°	186.7	180.8	175.0	169.2	163.3
82.5°	110.8	110.8	110.8	110.8	110.8
85°	58.3	64.2	70.0	75.8	81.7
87.5°	35.0	35.0	40.8	46.7	52.5
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)