

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: P546693

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-81-96-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: P546693
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-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

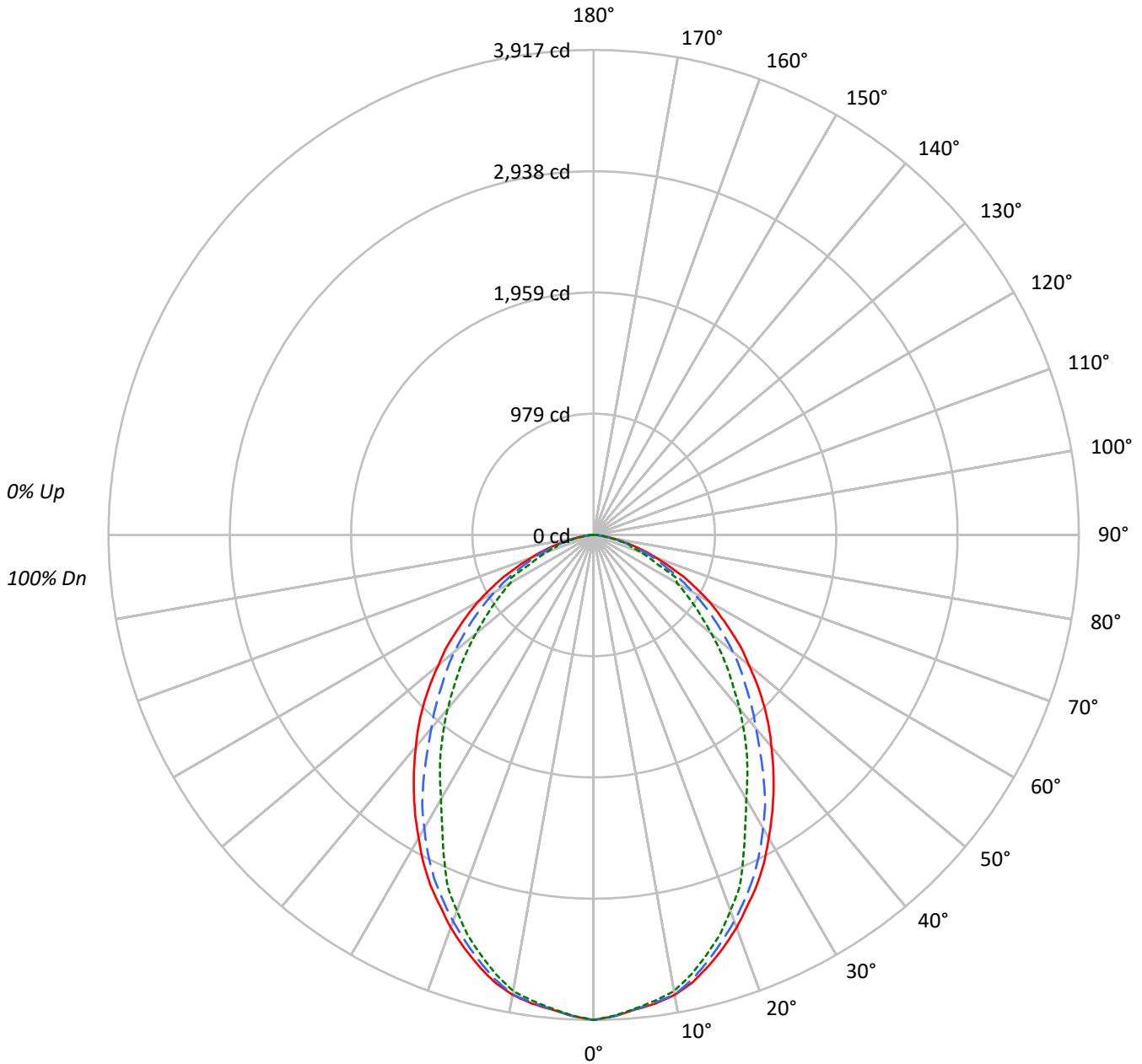
Lumens per Lamp: N/A
Luminaire Lumens: 7690.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	5271	5271	5271
5°	5199	5193	5187
10°	5154	5148	5111
15°	5015	4964	4895
20°	4831	4753	4623
25°	4632	4531	4249
30°	4390	4250	3827
35°	4158	3927	3541
40°	3921	3579	3221
45°	3697	3309	2912
50°	3422	3071	2597
55°	3166	2783	2326
60°	2900	2486	2084
65°	2552	2177	1846
70°	2102	1906	1568
75°	1671	1460	1530
80°	1123	1053	982
85°	699	838	979



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.6	4.7
10°-20°	1000.7	13.0
20°-30°	1385.4	18.0
30°-40°	1477.3	19.2
40°-50°	1347.7	17.5
50°-60°	1055.8	13.7
60°-70°	688.1	8.9
70°-80°	304.9	4.0
80°-90°	65.4	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°	2750.8	35.8
0°-40°	4228.0	55.0
0°-60°	6631.5	86.2
0°-90°	7690.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7690.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3917	3917	3917	3917	3917	
5°	3849	3845	3845	3840	3840	365
15°	3600	3600	3564	3528	3514	1012
25°	3120	3102	3052	2944	2862	1432
35°	2532	2513	2391	2210	2156	1583
45°	1943	1902	1739	1594	1531	1496
55°	1350	1309	1186	1046	992	1210
65°	802	756	684	697	580	790
75°	322	299	281	267	294	345
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°	3917.2	3917.2	3917.2	3917.2	3917.2
2.5°	3890.0	3890.0	3890.0	3885.5	3885.5
5°	3849.3	3844.7	3844.7	3840.2	3840.2
7.5°	3817.6	3813.0	3808.5	3804.0	3794.9
10°	3772.3	3772.3	3767.7	3745.1	3740.6
12.5°	3699.8	3695.3	3677.2	3645.5	3636.4
15°	3600.2	3600.2	3564.0	3527.7	3514.1
17.5°	3491.5	3487.0	3441.7	3405.5	3387.3
20°	3373.8	3364.7	3319.4	3260.5	3228.8
22.5°	3242.4	3242.4	3188.1	3111.1	3079.4
25°	3120.2	3102.0	3052.2	2943.5	2862.0
27.5°	2979.8	2952.6	2898.3	2744.3	2649.2
30°	2825.8	2812.2	2735.2	2536.0	2463.5
32.5°	2680.9	2658.3	2576.7	2368.4	2309.6
35°	2531.5	2513.3	2391.1	2209.9	2155.6
37.5°	2382.0	2359.4	2205.4	2060.5	1992.6
40°	2232.6	2205.4	2037.8	1906.5	1834.1
42.5°	2092.2	2056.0	1892.9	1752.5	1671.0
45°	1942.7	1902.0	1739.0	1594.0	1530.6
47.5°	1793.3	1757.1	1607.6	1458.2	1385.7
50°	1634.8	1603.1	1467.2	1317.8	1240.8
52.5°	1503.5	1453.7	1322.3	1172.9	1109.5
55°	1349.5	1308.7	1186.5	1046.1	991.7
57.5°	1209.1	1168.4	1055.1	923.8	878.5
60°	1077.8	1018.9	923.8	810.6	774.4
62.5°	932.9	887.6	806.1	711.0	756.3
65°	801.6	756.3	683.8	697.4	579.7
67.5°	656.6	634.0	570.6	507.2	489.1
70°	534.4	507.2	484.6	416.6	398.5
72.5°	425.7	398.5	366.8	330.6	317.0
75°	321.5	298.9	280.8	267.2	294.4
77.5°	221.9	212.8	199.3	185.7	181.1
80°	144.9	140.4	135.9	131.3	126.8
82.5°	86.0	86.0	86.0	86.0	86.0
85°	45.3	49.8	54.3	58.9	63.4
87.5°	27.2	27.2	31.7	36.2	40.8
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)