

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: P546687

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-81-84-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: P546687
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-81-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

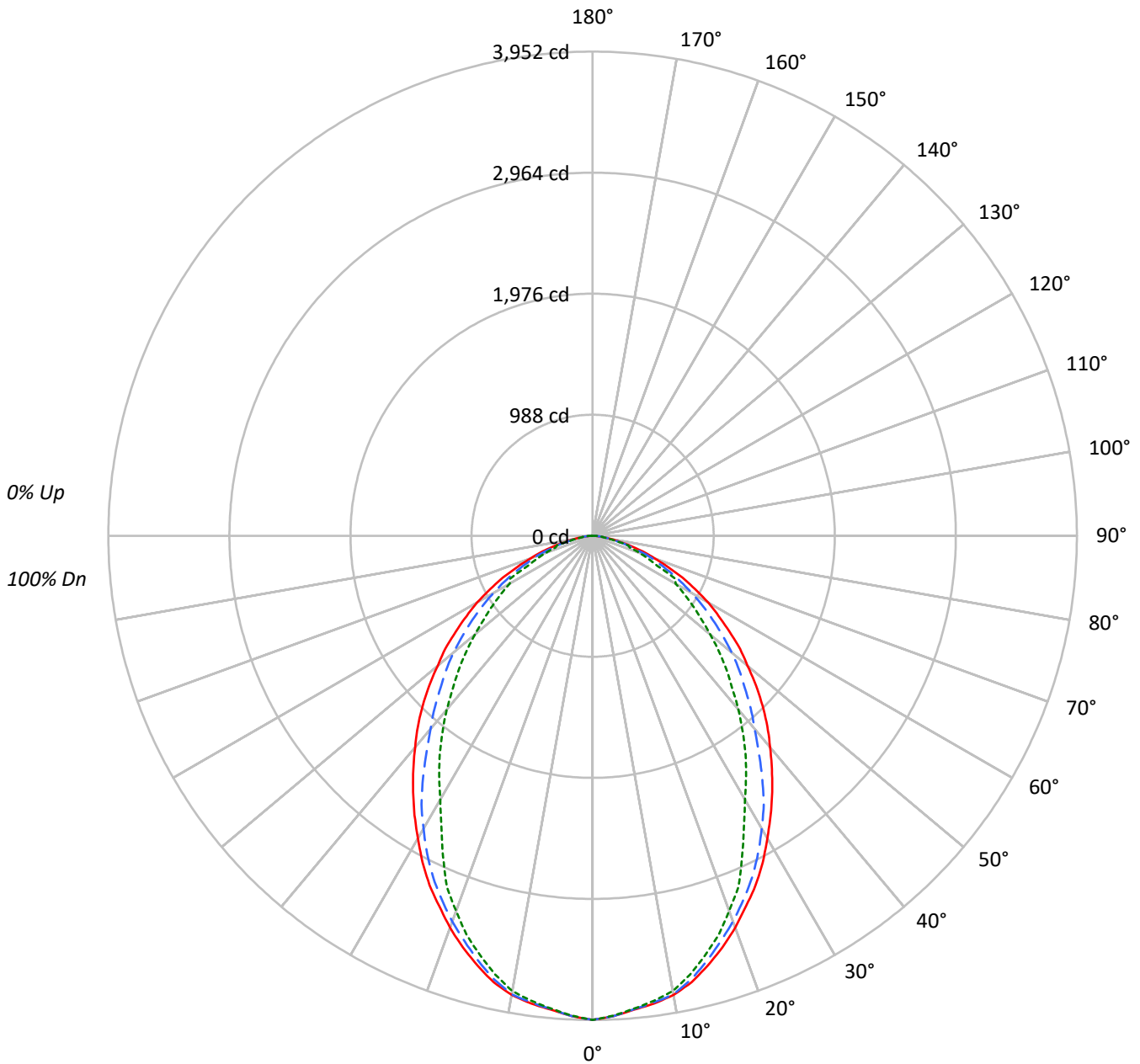
Lumens per Lamp: N/A
Luminaire Lumens: 7758.0 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5317	5317	5317
5°	5245	5239	5233
10°	5199	5193	5156
15°	5059	5008	4938
20°	4873	4795	4664
25°	4673	4571	4286
30°	4429	4287	3861
35°	4195	3962	3572
40°	3956	3611	3250
45°	3729	3338	2938
50°	3452	3098	2620
55°	3194	2808	2347
60°	2926	2508	2102
65°	2574	2196	1862
70°	2121	1923	1581
75°	1686	1473	1544
80°	1133	1062	991
85°	706	846	988



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	367.9	4.7
10°-20°	1009.6	13.0
20°-30°	1397.7	18.0
30°-40°	1490.3	19.2
40°-50°	1359.6	17.5
50°-60°	1065.1	13.7
60°-70°	694.2	8.9
70°-80°	307.6	4.0
80°-90°	66.0	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°	2775.1	35.8
0°-40°	4265.4	55.0
0°-60°	6690.2	86.2
0°-90°	7758.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7758.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3952	3952	3952	3952	3952	
5°	3883	3879	3879	3874	3874	369
15°	3632	3632	3596	3559	3545	1021
25°	3148	3130	3079	2970	2887	1445
35°	2554	2536	2412	2230	2175	1597
45°	1960	1919	1754	1608	1544	1510
55°	1361	1320	1197	1055	1000	1221
65°	809	763	690	704	585	797
75°	324	302	283	270	297	348
85°	46	50	55	59	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3951.8	3951.8	3951.8	3951.8	3951.8
2.5°	3924.4	3924.4	3924.4	3919.8	3919.8
5°	3883.3	3878.7	3878.7	3874.2	3874.2
7.5°	3851.3	3846.7	3842.2	3837.6	3828.5
10°	3805.6	3805.6	3801.1	3778.2	3773.6
12.5°	3732.5	3728.0	3709.7	3677.7	3668.6
15°	3632.0	3632.0	3595.5	3558.9	3545.2
17.5°	3522.4	3517.8	3472.1	3435.6	3417.3
20°	3403.6	3394.5	3348.8	3289.4	3257.4
22.5°	3271.1	3271.1	3216.3	3138.6	3106.6
25°	3147.8	3129.5	3079.2	2969.6	2887.3
27.5°	3006.1	2978.7	2923.9	2768.6	2672.6
30°	2850.8	2837.1	2759.4	2558.4	2485.3
32.5°	2704.6	2681.8	2599.5	2389.4	2330.0
35°	2553.8	2535.6	2412.2	2229.5	2174.6
37.5°	2403.1	2380.2	2224.9	2078.7	2010.2
40°	2252.3	2224.9	2055.9	1923.4	1850.3
42.5°	2110.7	2074.1	1909.7	1768.0	1685.8
45°	1959.9	1918.8	1754.3	1608.1	1544.2
47.5°	1809.2	1772.6	1621.8	1471.1	1398.0
50°	1649.3	1617.3	1480.2	1329.5	1251.8
52.5°	1516.8	1466.5	1334.0	1183.3	1119.3
55°	1361.4	1320.3	1197.0	1055.3	1000.5
57.5°	1219.8	1178.7	1064.5	932.0	886.3
60°	1087.3	1027.9	932.0	817.8	781.2
62.5°	941.1	895.4	813.2	717.3	763.0
65°	808.6	763.0	689.9	703.6	584.8
67.5°	662.4	639.6	575.6	511.7	493.4
70°	539.1	511.7	488.8	420.3	402.0
72.5°	429.4	402.0	370.1	333.5	319.8
75°	324.4	301.5	283.3	269.5	297.0
77.5°	223.9	214.7	201.0	187.3	182.7
80°	146.2	141.6	137.1	132.5	127.9
82.5°	86.8	86.8	86.8	86.8	86.8
85°	45.7	50.3	54.8	59.4	64.0
87.5°	27.4	27.4	32.0	36.5	41.1
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)