

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: P546719

Luminaire Tested: **FMR-24-4-LD4-2HI-40-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: P546719
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

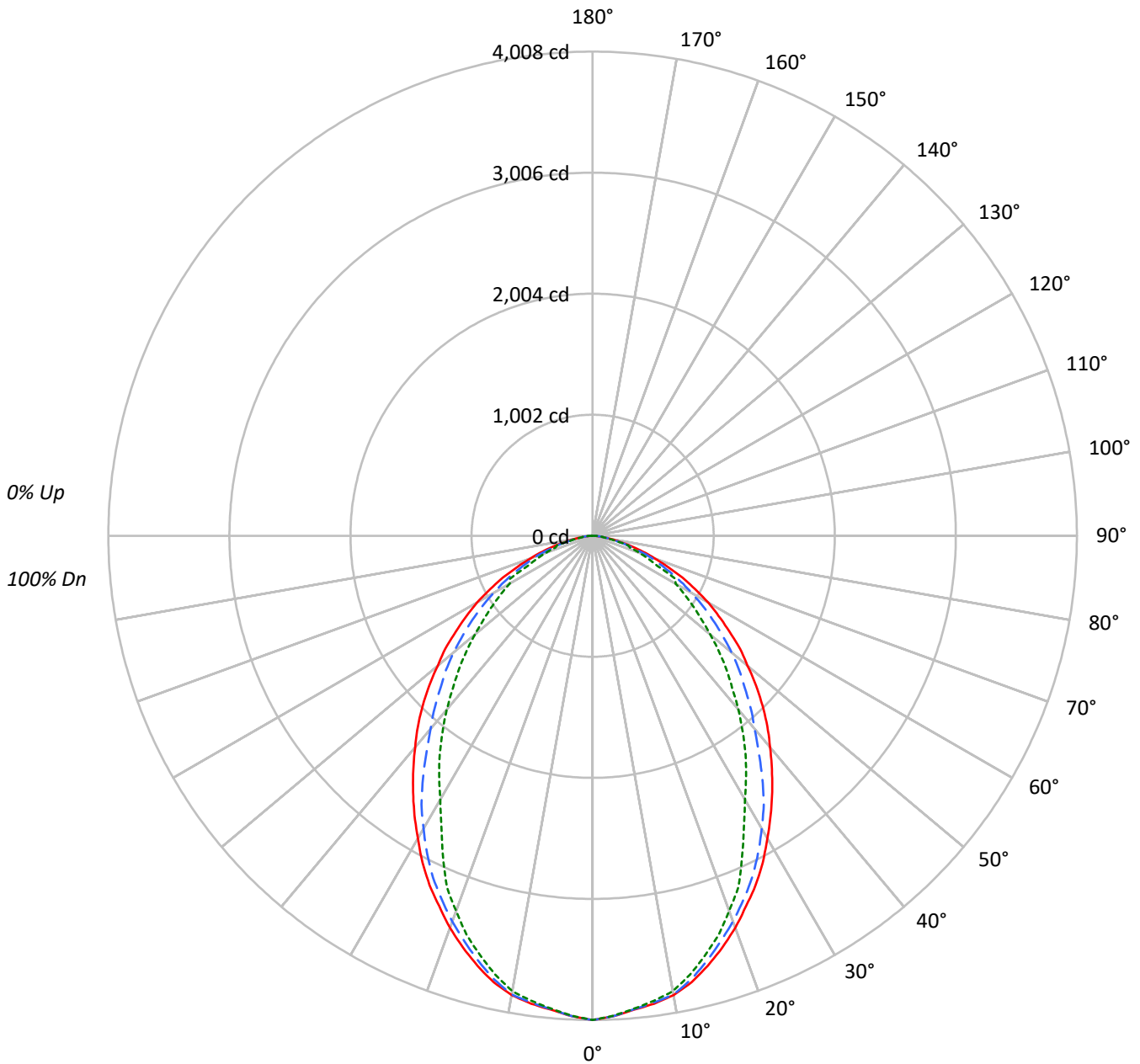
Lumens per Lamp: N/A
Luminaire Lumens: 7869.0 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	5393	5393	5393
5°	5320	5314	5307
10°	5274	5267	5229
15°	5132	5080	5009
20°	4943	4864	4731
25°	4740	4637	4348
30°	4492	4348	3917
35°	4255	4019	3623
40°	4013	3663	3296
45°	3783	3386	2980
50°	3502	3143	2658
55°	3239	2848	2381
60°	2968	2544	2132
65°	2611	2228	1888
70°	2151	1950	1604
75°	1710	1494	1566
80°	1149	1077	1006
85°	715	858	1002



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.1	4.7
10°-20°	1024.0	13.0
20°-30°	1417.7	18.0
30°-40°	1511.6	19.2
40°-50°	1379.1	17.5
50°-60°	1080.4	13.7
60°-70°	704.1	8.9
70°-80°	312.0	4.0
80°-90°	67.0	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°	2814.8	35.8
0°-40°	4326.5	55.0
0°-60°	6785.9	86.2
0°-90°	7869.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7869.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4008	4008	4008	4008	4008	
5°	3939	3934	3934	3930	3930	374
15°	3684	3684	3647	3610	3596	1036
25°	3193	3174	3123	3012	2929	1466
35°	2590	2572	2447	2261	2206	1619
45°	1988	1946	1779	1631	1566	1531
55°	1381	1339	1214	1070	1015	1239
65°	820	774	700	714	593	808
75°	329	306	287	273	301	353
85°	46	51	56	60	65	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4008.4	4008.4	4008.4	4008.4	4008.4
2.5°	3980.6	3980.6	3980.6	3975.9	3975.9
5°	3938.9	3934.2	3934.2	3929.6	3929.6
7.5°	3906.4	3901.8	3897.1	3892.5	3883.2
10°	3860.1	3860.1	3855.4	3832.3	3827.6
12.5°	3785.9	3781.3	3762.8	3730.3	3721.1
15°	3684.0	3684.0	3646.9	3609.8	3595.9
17.5°	3572.8	3568.1	3521.8	3484.7	3466.2
20°	3452.3	3443.0	3396.7	3336.4	3304.0
22.5°	3317.9	3317.9	3262.3	3183.5	3151.1
25°	3192.8	3174.3	3123.3	3012.1	2928.7
27.5°	3049.1	3021.3	2965.7	2808.2	2710.9
30°	2891.6	2877.7	2798.9	2595.0	2520.9
32.5°	2743.3	2720.1	2636.7	2423.6	2363.3
35°	2590.4	2571.8	2446.7	2261.4	2205.8
37.5°	2437.5	2414.3	2256.7	2108.4	2038.9
40°	2284.5	2256.7	2085.3	1950.9	1876.7
42.5°	2140.9	2103.8	1937.0	1793.3	1709.9
45°	1988.0	1946.3	1779.4	1631.1	1566.3
47.5°	1835.0	1798.0	1645.1	1492.1	1418.0
50°	1672.9	1640.4	1501.4	1348.5	1269.7
52.5°	1538.5	1487.5	1353.1	1200.2	1135.3
55°	1380.9	1339.2	1214.1	1070.4	1014.8
57.5°	1237.3	1195.6	1079.7	945.3	899.0
60°	1102.9	1042.6	945.3	829.5	792.4
62.5°	954.6	908.3	824.8	727.5	773.9
65°	820.2	773.9	699.7	713.6	593.1
67.5°	671.9	648.8	583.9	519.0	500.5
70°	546.8	519.0	495.8	426.3	407.8
72.5°	435.6	407.8	375.3	338.3	324.4
75°	329.0	305.8	287.3	273.4	301.2
77.5°	227.1	217.8	203.9	190.0	185.4
80°	148.3	143.7	139.0	134.4	129.8
82.5°	88.0	88.0	88.0	88.0	88.0
85°	46.3	51.0	55.6	60.2	64.9
87.5°	27.8	27.8	32.4	37.1	41.7
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)