

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: P547490

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-81-87-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: P547490
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-81-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

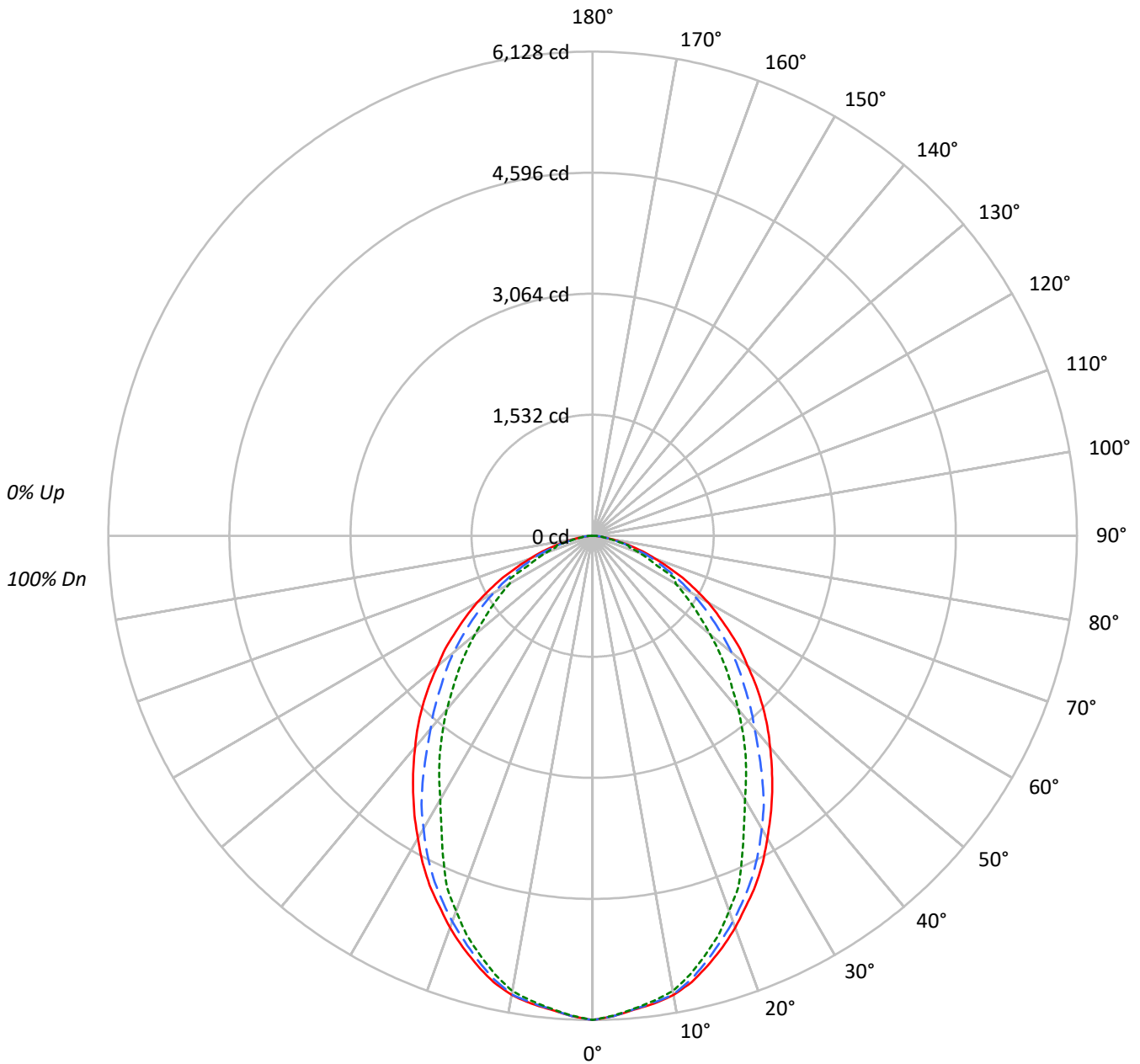
Lumens per Lamp: N/A
Luminaire Lumens: 12030.0 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
Input Voltage (V): NR
Input Current (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°	8245	8245	8245
5°	8133	8123	8114
10°	8062	8053	7995
15°	7845	7766	7658
20°	7557	7435	7232
25°	7246	7089	6647
30°	6868	6648	5988
35°	6505	6144	5539
40°	6134	5599	5039
45°	5783	5176	4556
50°	5353	4805	4063
55°	4952	4354	3639
60°	4537	3889	3260
65°	3992	3406	2887
70°	3288	2982	2452
75°	2615	2283	2394
80°	1757	1647	1537
85°	1093	1312	1531



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	570.4	4.7
10°-20°	1565.5	13.0
20°-30°	2167.3	18.0
30°-40°	2311.0	19.2
40°-50°	2108.3	17.5
50°-60°	1651.7	13.7
60°-70°	1076.5	8.9
70°-80°	476.9	4.0
80°-90°	102.4	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°	4303.2	35.8
0°-40°	6614.2	55.0
0°-60°	10374.2	86.2
0°-90°	12030.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12030.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6128	6128	6128	6128	6128	
5°	6022	6015	6015	6008	6008	572
15°	5632	5632	5575	5519	5497	1583
25°	4881	4853	4775	4605	4477	2241
35°	3960	3932	3740	3457	3372	2476
45°	3039	2975	2720	2494	2394	2341
55°	2111	2047	1856	1636	1552	1894
65°	1254	1183	1070	1091	907	1236
75°	503	468	439	418	460	539
85°	71	78	85	92	99	98
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6127.9	6127.9	6127.9	6127.9	6127.9
2.5°	6085.4	6085.4	6085.4	6078.3	6078.3
5°	6021.7	6014.6	6014.6	6007.5	6007.5
7.5°	5972.1	5965.0	5957.9	5950.8	5936.6
10°	5901.2	5901.2	5894.1	5858.7	5851.6
12.5°	5787.9	5780.8	5752.5	5702.9	5688.7
15°	5632.0	5632.0	5575.3	5518.7	5497.4
17.5°	5462.0	5454.9	5384.1	5327.4	5299.1
20°	5277.8	5263.6	5192.8	5100.7	5051.1
22.5°	5072.4	5072.4	4987.3	4866.9	4817.3
25°	4881.1	4852.7	4774.8	4604.8	4477.3
27.5°	4661.5	4619.0	4534.0	4293.1	4144.3
30°	4420.6	4399.4	4278.9	3967.2	3853.9
32.5°	4193.9	4158.5	4031.0	3705.1	3613.0
35°	3960.1	3931.8	3740.5	3457.1	3372.1
37.5°	3726.3	3690.9	3450.1	3223.4	3117.1
40°	3492.6	3450.1	3187.9	2982.5	2869.1
42.5°	3272.9	3216.3	2961.2	2741.6	2614.1
45°	3039.2	2975.4	2720.4	2493.7	2394.5
47.5°	2805.4	2748.7	2514.9	2281.1	2167.8
50°	2557.4	2507.8	2295.3	2061.5	1941.1
52.5°	2352.0	2274.1	2068.6	1834.8	1735.7
55°	2111.1	2047.4	1856.1	1636.5	1551.5
57.5°	1891.5	1827.7	1650.6	1445.2	1374.4
60°	1686.1	1594.0	1445.2	1268.1	1211.4
62.5°	1459.4	1388.5	1261.0	1112.2	1183.1
65°	1253.9	1183.1	1069.7	1091.0	906.8
67.5°	1027.2	991.8	892.6	793.4	765.1
70°	835.9	793.4	758.0	651.8	623.4
72.5°	665.9	623.4	573.8	517.2	495.9
75°	503.0	467.6	439.2	418.0	460.5
77.5°	347.1	333.0	311.7	290.5	283.4
80°	226.7	219.6	212.5	205.4	198.4
82.5°	134.6	134.6	134.6	134.6	134.6
85°	70.8	77.9	85.0	92.1	99.2
87.5°	42.5	42.5	49.6	56.7	63.8
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)