

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: P546335

Luminaire Tested: **FMR-12-4-LD4-2STD-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: P546335
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-12-4-LD4-2STD-40-UNV-81-84-EDD
Description: 1X4 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

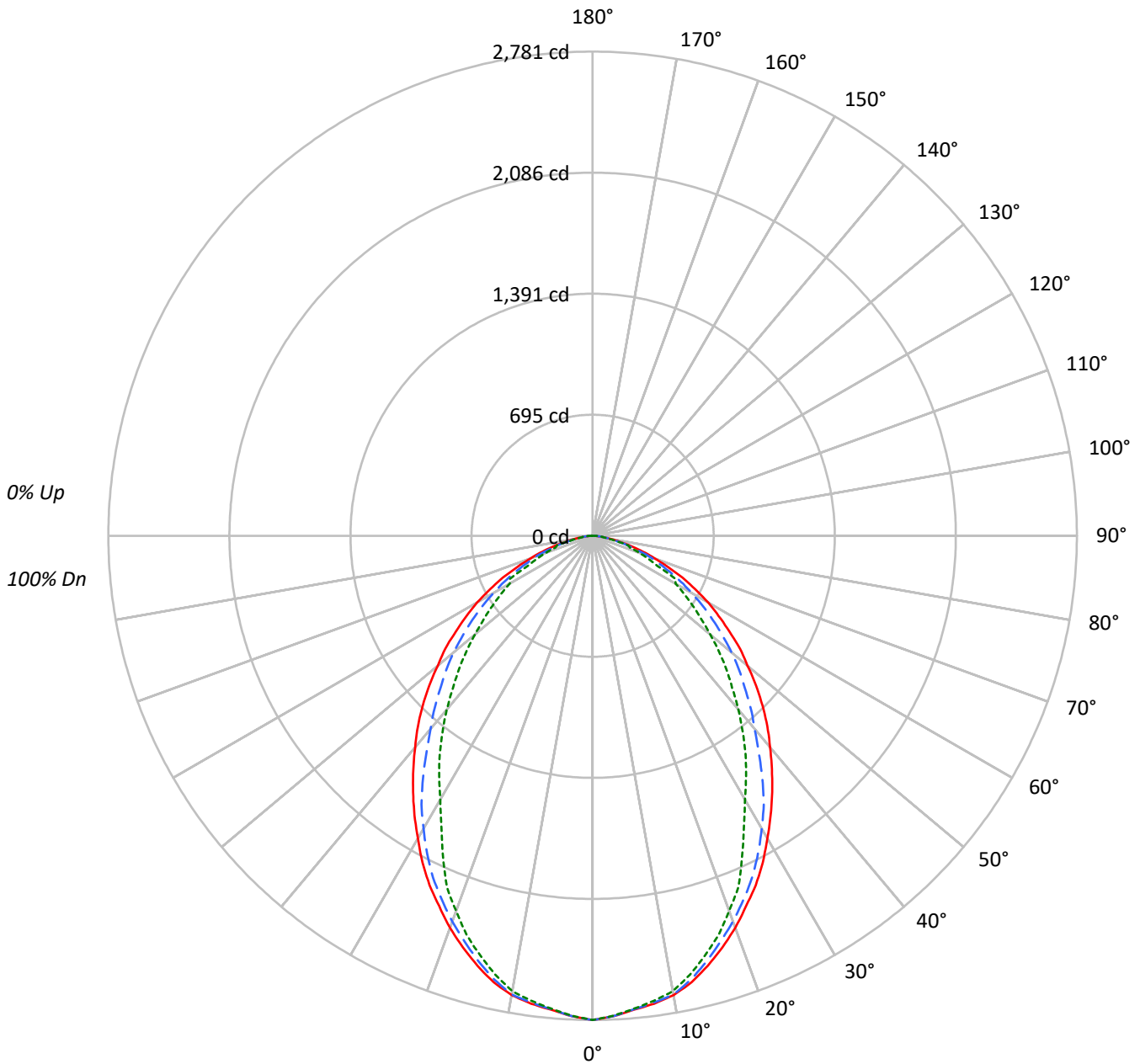
Lumens per Lamp: N/A
Luminaire Lumens: 5460.0 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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					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				
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7484	7484	7484
5°	7383	7374	7365
10°	7319	7310	7257
15°	7121	7050	6951
20°	6860	6749	6565
25°	6578	6434	6034
30°	6234	6035	5435
35°	5905	5577	5028
40°	5569	5083	4574
45°	5249	4699	4136
50°	4859	4361	3688
55°	4495	3952	3304
60°	4118	3530	2959
65°	3624	3091	2621
70°	2985	2707	2226
75°	2374	2072	2173
80°	1595	1495	1395
85°	994	1192	1389



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.9	4.7
10°-20°	710.5	13.0
20°-30°	983.7	18.0
30°-40°	1048.9	19.2
40°-50°	956.9	17.5
50°-60°	749.6	13.7
60°-70°	488.6	8.9
70°-80°	216.4	4.0
80°-90°	46.5	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°	1953.1	35.8
0°-40°	3002.0	55.0
0°-60°	4708.5	86.2
0°-90°	5460.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2781	2781	2781	2781	2781	
5°	2733	2730	2730	2727	2727	259
15°	2556	2556	2530	2505	2495	719
25°	2215	2202	2167	2090	2032	1017
35°	1797	1784	1698	1569	1530	1124
45°	1379	1350	1235	1132	1087	1063
55°	958	929	842	743	704	859
65°	569	537	486	495	412	561
75°	228	212	199	190	209	245
85°	32	35	39	42	45	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2781.3	2781.3	2781.3	2781.3	2781.3
2.5°	2762.0	2762.0	2762.0	2758.7	2758.7
5°	2733.0	2729.8	2729.8	2726.6	2726.6
7.5°	2710.5	2707.3	2704.1	2700.9	2694.4
10°	2678.4	2678.4	2675.1	2659.1	2655.9
12.5°	2626.9	2623.7	2610.8	2588.3	2581.9
15°	2556.2	2556.2	2530.5	2504.7	2495.1
17.5°	2479.0	2475.8	2443.6	2417.9	2405.1
20°	2395.4	2389.0	2356.8	2315.0	2292.5
22.5°	2302.2	2302.2	2263.6	2208.9	2186.4
25°	2215.4	2202.5	2167.1	2090.0	2032.1
27.5°	2115.7	2096.4	2057.8	1948.5	1881.0
30°	2006.4	1996.7	1942.1	1800.6	1749.1
32.5°	1903.5	1887.4	1829.5	1681.6	1639.8
35°	1797.4	1784.5	1697.7	1569.1	1530.5
37.5°	1691.3	1675.2	1565.9	1463.0	1414.7
40°	1585.2	1565.9	1446.9	1353.6	1302.2
42.5°	1485.5	1459.8	1344.0	1244.3	1186.5
45°	1379.4	1350.4	1234.7	1131.8	1086.8
47.5°	1273.3	1247.5	1141.4	1035.3	983.9
50°	1160.7	1138.2	1041.8	935.7	881.0
52.5°	1067.5	1032.1	938.9	832.8	787.8
55°	958.2	929.2	842.4	742.7	704.2
57.5°	858.5	829.6	749.2	655.9	623.8
60°	765.2	723.4	655.9	575.5	549.8
62.5°	662.4	630.2	572.3	504.8	537.0
65°	569.1	537.0	485.5	495.2	411.6
67.5°	466.2	450.1	405.1	360.1	347.3
70°	379.4	360.1	344.0	295.8	282.9
72.5°	302.2	282.9	260.4	234.7	225.1
75°	228.3	212.2	199.3	189.7	209.0
77.5°	157.6	151.1	141.5	131.8	128.6
80°	102.9	99.7	96.5	93.2	90.0
82.5°	61.1	61.1	61.1	61.1	61.1
85°	32.2	35.4	38.6	41.8	45.0
87.5°	19.3	19.3	22.5	25.7	28.9
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)