

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: P546320

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-93-85-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: P546320
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-35-UNV-93-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

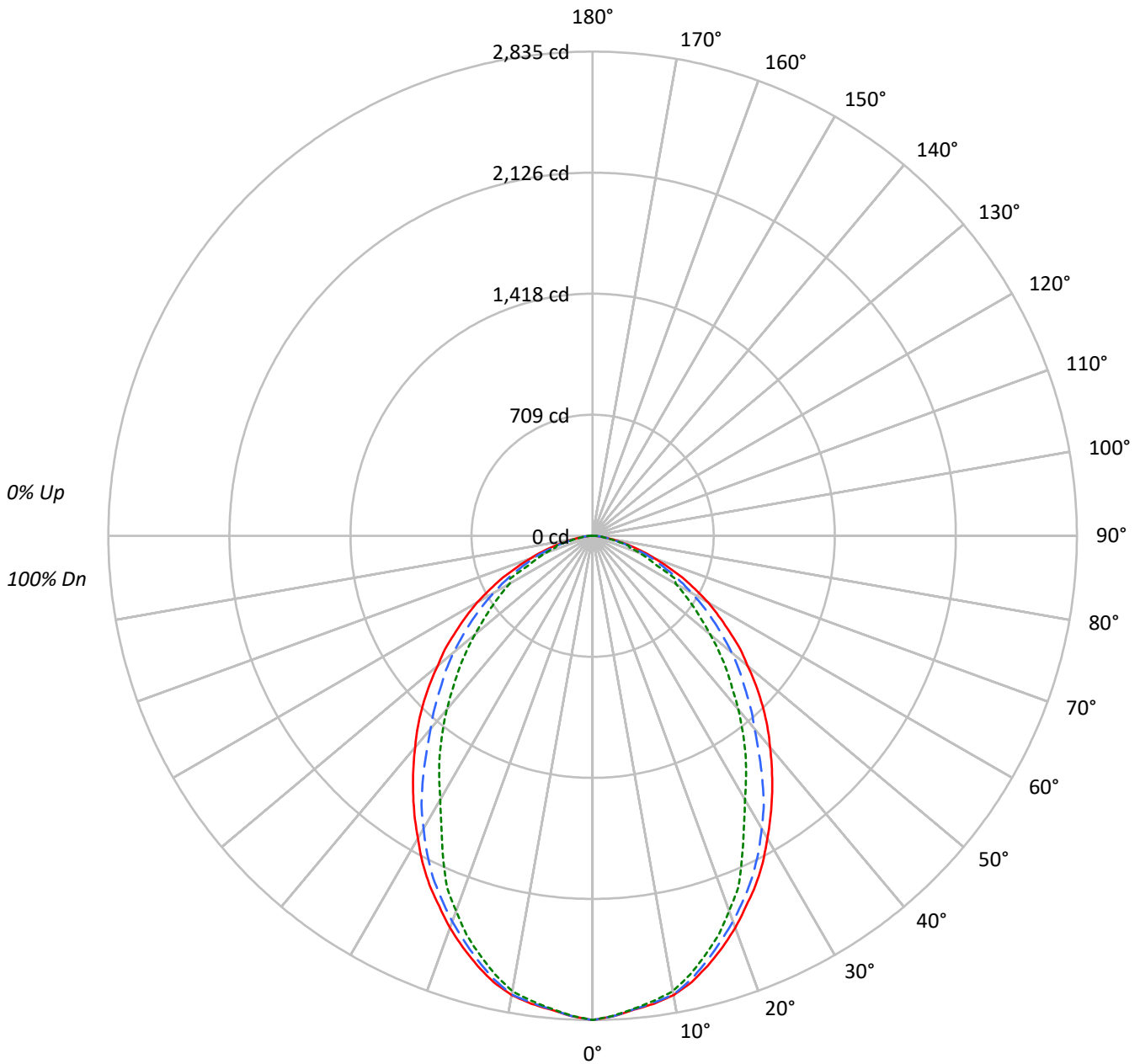
Lumens per Lamp: N/A
Luminaire Lumens: 5566.0 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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				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°	7629	7629	7629
5°	7526	7517	7508
10°	7461	7452	7398
15°	7260	7187	7086
20°	6993	6880	6692
25°	6706	6559	6151
30°	6355	6152	5541
35°	6019	5685	5125
40°	5676	5181	4663
45°	5351	4790	4216
50°	4954	4446	3760
55°	4583	4029	3368
60°	4198	3599	3017
65°	3694	3151	2672
70°	3043	2759	2269
75°	2419	2113	2216
80°	1626	1523	1423
85°	1013	1213	1417



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.9	4.7
10°-20°	724.3	13.0
20°-30°	1002.8	18.0
30°-40°	1069.2	19.2
40°-50°	975.5	17.5
50°-60°	764.2	13.7
60°-70°	498.1	8.9
70°-80°	220.7	4.0
80°-90°	47.4	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°	1991.0	35.8
0°-40°	3060.2	55.0
0°-60°	4799.9	86.2
0°-90°	5566.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5566.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2835	2835	2835	2835	2835	
5°	2786	2783	2783	2780	2780	264
15°	2606	2606	2580	2553	2544	733
25°	2258	2245	2209	2130	2072	1037
35°	1832	1819	1731	1600	1560	1145
45°	1406	1377	1259	1154	1108	1083
55°	977	947	859	757	718	876
65°	580	547	495	505	420	572
75°	233	216	203	193	213	249
85°	33	36	39	43	46	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2835.2	2835.2	2835.2	2835.2	2835.2
2.5°	2815.6	2815.6	2815.6	2812.3	2812.3
5°	2786.1	2782.8	2782.8	2779.5	2779.5
7.5°	2763.1	2759.9	2756.6	2753.3	2746.7
10°	2730.4	2730.4	2727.1	2710.7	2707.4
12.5°	2677.9	2674.6	2661.5	2638.6	2632.0
15°	2605.8	2605.8	2579.6	2553.4	2543.5
17.5°	2527.1	2523.9	2491.1	2464.9	2451.8
20°	2441.9	2435.4	2402.6	2360.0	2337.0
22.5°	2346.9	2346.9	2307.5	2251.8	2228.9
25°	2258.4	2245.3	2209.2	2130.5	2071.5
27.5°	2156.8	2137.1	2097.8	1986.3	1917.5
30°	2045.3	2035.5	1979.8	1835.5	1783.1
32.5°	1940.4	1924.0	1865.0	1714.3	1671.6
35°	1832.3	1819.1	1730.6	1599.5	1560.2
37.5°	1724.1	1707.7	1596.3	1491.4	1442.2
40°	1615.9	1596.3	1475.0	1379.9	1327.5
42.5°	1514.3	1488.1	1370.1	1268.5	1209.5
45°	1406.2	1376.7	1258.7	1153.8	1107.9
47.5°	1298.0	1271.8	1163.6	1055.4	1003.0
50°	1183.3	1160.3	1062.0	953.8	898.1
52.5°	1088.2	1052.2	957.1	848.9	803.0
55°	976.8	947.3	858.8	757.2	717.8
57.5°	875.2	845.7	763.7	668.7	635.9
60°	780.1	737.5	668.7	586.7	560.5
62.5°	675.2	642.4	583.4	514.6	547.4
65°	580.2	547.4	494.9	504.8	419.6
67.5°	475.3	458.9	413.0	367.1	354.0
70°	386.8	367.1	350.7	301.6	288.4
72.5°	308.1	288.4	265.5	239.3	229.4
75°	232.7	216.3	203.2	193.4	213.1
77.5°	160.6	154.1	144.2	134.4	131.1
80°	104.9	101.6	98.3	95.1	91.8
82.5°	62.3	62.3	62.3	62.3	62.3
85°	32.8	36.1	39.3	42.6	45.9
87.5°	19.7	19.7	22.9	26.2	29.5
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)