

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: P546351

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-93-84-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: P546351
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-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

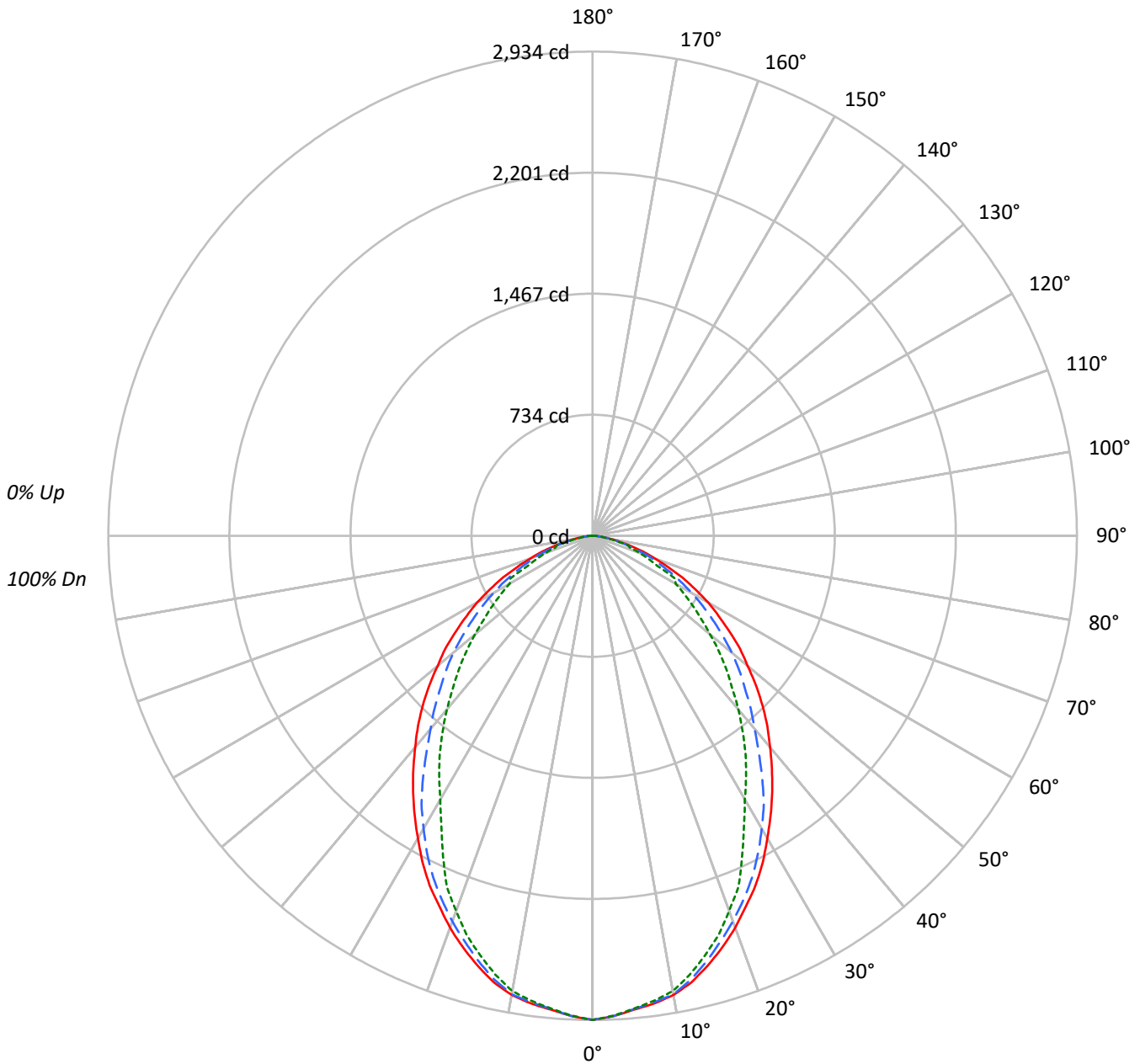
Lumens per Lamp: N/A
Luminaire Lumens: 5759.0 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546351

CATALOG NUMBER: FMR-12-4-LD4-2STD-40-UNV-93-84-EDD

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			
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°	7894	7894	7894
5°	7787	7778	7769
10°	7719	7710	7655
15°	7511	7436	7332
20°	7235	7119	6925
25°	6938	6787	6364
30°	6576	6365	5733
35°	6228	5883	5303
40°	5873	5361	4825
45°	5537	4956	4362
50°	5125	4600	3890
55°	4741	4168	3484
60°	4344	3723	3121
65°	3822	3261	2764
70°	3149	2855	2348
75°	2504	2187	2292
80°	1681	1576	1472
85°	1047	1257	1467



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.1	4.7
10°-20°	749.4	13.0
20°-30°	1037.5	18.0
30°-40°	1106.3	19.2
40°-50°	1009.3	17.5
50°-60°	790.7	13.7
60°-70°	515.3	8.9
70°-80°	228.3	4.0
80°-90°	49.0	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°	2060.0	35.8
0°-40°	3166.4	55.0
0°-60°	4966.3	86.2
0°-90°	5759.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5759.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2934	2934	2934	2934	2934	
5°	2883	2879	2879	2876	2876	274
15°	2696	2696	2669	2642	2632	758
25°	2337	2323	2286	2204	2143	1073
35°	1896	1882	1791	1655	1614	1185
45°	1455	1424	1302	1194	1146	1121
55°	1011	980	888	783	743	906
65°	600	566	512	522	434	592
75°	241	224	210	200	220	258
85°	34	37	41	44	48	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2933.6	2933.6	2933.6	2933.6	2933.6
2.5°	2913.2	2913.2	2913.2	2909.8	2909.8
5°	2882.7	2879.3	2879.3	2875.9	2875.9
7.5°	2858.9	2855.6	2852.2	2848.8	2842.0
10°	2825.0	2825.0	2821.6	2804.7	2801.3
12.5°	2770.8	2767.4	2753.8	2730.1	2723.3
15°	2696.2	2696.2	2669.0	2641.9	2631.7
17.5°	2614.8	2611.4	2577.5	2550.3	2536.8
20°	2526.6	2519.8	2485.9	2441.8	2418.1
22.5°	2428.2	2428.2	2387.5	2329.9	2306.1
25°	2336.7	2323.1	2285.8	2204.4	2143.4
27.5°	2231.5	2211.2	2170.5	2055.2	1984.0
30°	2116.2	2106.1	2048.4	1899.2	1844.9
32.5°	2007.7	1990.7	1929.7	1773.7	1729.6
35°	1895.8	1882.2	1790.7	1655.0	1614.3
37.5°	1783.9	1766.9	1651.6	1543.1	1492.2
40°	1672.0	1651.6	1526.1	1427.8	1373.5
42.5°	1566.8	1539.7	1417.6	1312.5	1251.4
45°	1454.9	1424.4	1302.3	1193.8	1146.3
47.5°	1343.0	1315.9	1203.9	1092.0	1037.8
50°	1224.3	1200.6	1098.8	986.9	929.2
52.5°	1125.9	1088.6	990.3	878.4	830.9
55°	1010.6	980.1	888.5	783.4	742.7
57.5°	905.5	875.0	790.2	691.8	657.9
60°	807.2	763.1	691.8	607.1	579.9
62.5°	698.6	664.7	603.7	532.4	566.4
65°	600.3	566.4	512.1	522.3	434.1
67.5°	491.8	474.8	427.3	379.8	366.3
70°	400.2	379.8	362.9	312.0	298.4
72.5°	318.8	298.4	274.7	247.6	237.4
75°	240.8	223.8	210.3	200.1	220.4
77.5°	166.2	159.4	149.2	139.0	135.7
80°	108.5	105.1	101.7	98.4	95.0
82.5°	64.4	64.4	64.4	64.4	64.4
85°	33.9	37.3	40.7	44.1	47.5
87.5°	20.3	20.3	23.7	27.1	30.5
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)