

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: P546116

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-81-94-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: P546116
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-LD4-2HI-35-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

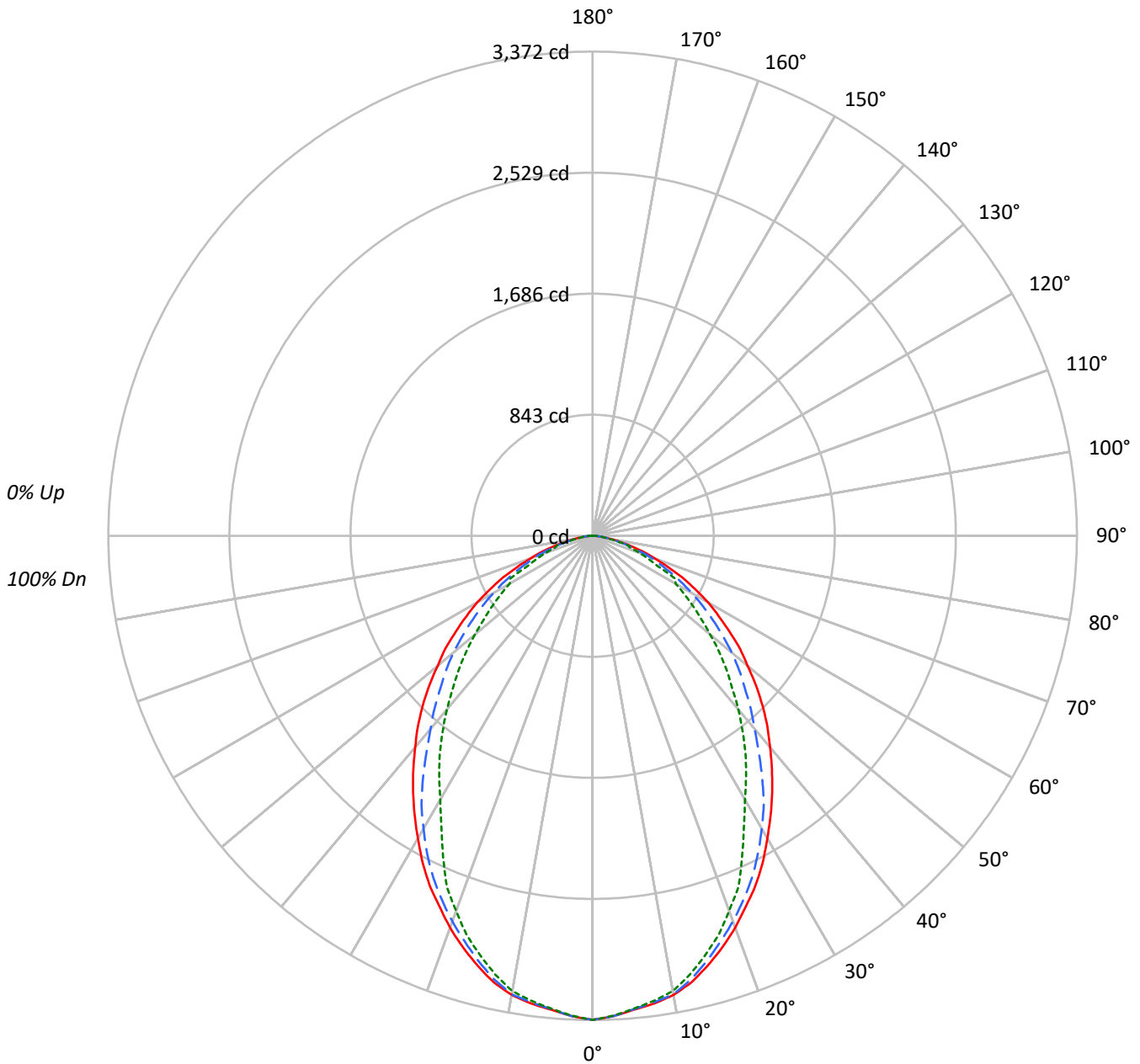
Lumens per Lamp: N/A
Luminaire Lumens: 6619.0 lumens
Efficiency: N/A
Efficacy: 76.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P546116

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-81-94-EDD

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°	9073	9073	9073
5°	8950	8939	8929
10°	8872	8861	8798
15°	8633	8546	8427
20°	8316	8182	7959
25°	7974	7800	7314
30°	7558	7315	6589
35°	7158	6761	6095
40°	6750	6161	5545
45°	6364	5696	5014
50°	5891	5287	4471
55°	5450	4791	4005
60°	4993	4280	3587
65°	4393	3748	3177
70°	3618	3282	2699
75°	2877	2513	2635
80°	1932	1812	1691
85°	1204	1445	1686



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.9	4.7
10°-20°	861.3	13.0
20°-30°	1192.5	18.0
30°-40°	1271.5	19.2
40°-50°	1160.0	17.5
50°-60°	908.8	13.7
60°-70°	592.3	8.9
70°-80°	262.4	4.0
80°-90°	56.4	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°	2367.7	35.8
0°-40°	3639.2	55.0
0°-60°	5708.0	86.2
0°-90°	6619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6619.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3372	3372	3372	3372	3372	
5°	3313	3309	3309	3305	3305	314
15°	3099	3099	3068	3036	3025	871
25°	2686	2670	2627	2534	2463	1233
35°	2179	2163	2058	1902	1855	1362
45°	1672	1637	1497	1372	1318	1288
55°	1162	1126	1021	900	854	1042
65°	690	651	589	600	499	680
75°	277	257	242	230	253	297
85°	39	43	47	51	55	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3371.6	3371.6	3371.6	3371.6	3371.6
2.5°	3348.2	3348.2	3348.2	3344.3	3344.3
5°	3313.2	3309.3	3309.3	3305.4	3305.4
7.5°	3285.9	3282.0	3278.1	3274.2	3266.4
10°	3246.9	3246.9	3243.0	3223.5	3219.6
12.5°	3184.5	3180.6	3165.0	3137.8	3130.0
15°	3098.8	3098.8	3067.6	3036.4	3024.7
17.5°	3005.2	3001.3	2962.4	2931.2	2915.6
20°	2903.9	2896.1	2857.1	2806.4	2779.2
22.5°	2790.9	2790.9	2744.1	2677.8	2650.5
25°	2685.6	2670.0	2627.1	2533.6	2463.4
27.5°	2564.8	2541.4	2494.6	2362.1	2280.2
30°	2432.3	2420.6	2354.3	2182.8	2120.4
32.5°	2307.5	2288.0	2217.9	2038.6	1987.9
35°	2178.9	2163.3	2058.1	1902.1	1855.4
37.5°	2050.3	2030.8	1898.2	1773.5	1715.0
40°	1921.6	1898.2	1754.0	1641.0	1578.6
42.5°	1800.8	1769.6	1629.3	1508.5	1438.3
45°	1672.2	1637.1	1496.8	1372.0	1317.5
47.5°	1543.5	1512.4	1383.7	1255.1	1192.7
50°	1407.1	1379.8	1262.9	1134.3	1068.0
52.5°	1294.1	1251.2	1138.2	1009.5	955.0
55°	1161.6	1126.5	1021.2	900.4	853.6
57.5°	1040.7	1005.6	908.2	795.2	756.2
60°	927.7	877.0	795.2	697.7	666.5
62.5°	803.0	764.0	693.8	612.0	650.9
65°	689.9	650.9	588.6	600.3	498.9
67.5°	565.2	545.7	491.1	436.6	421.0
70°	459.9	436.6	417.1	358.6	343.0
72.5°	366.4	343.0	315.7	284.5	272.8
75°	276.7	257.3	241.7	230.0	253.4
77.5°	191.0	183.2	171.5	159.8	155.9
80°	124.7	120.8	116.9	113.0	109.1
82.5°	74.1	74.1	74.1	74.1	74.1
85°	39.0	42.9	46.8	50.7	54.6
87.5°	23.4	23.4	27.3	31.2	35.1
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)