

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: P546124

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-82-94-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: P546124
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-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 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

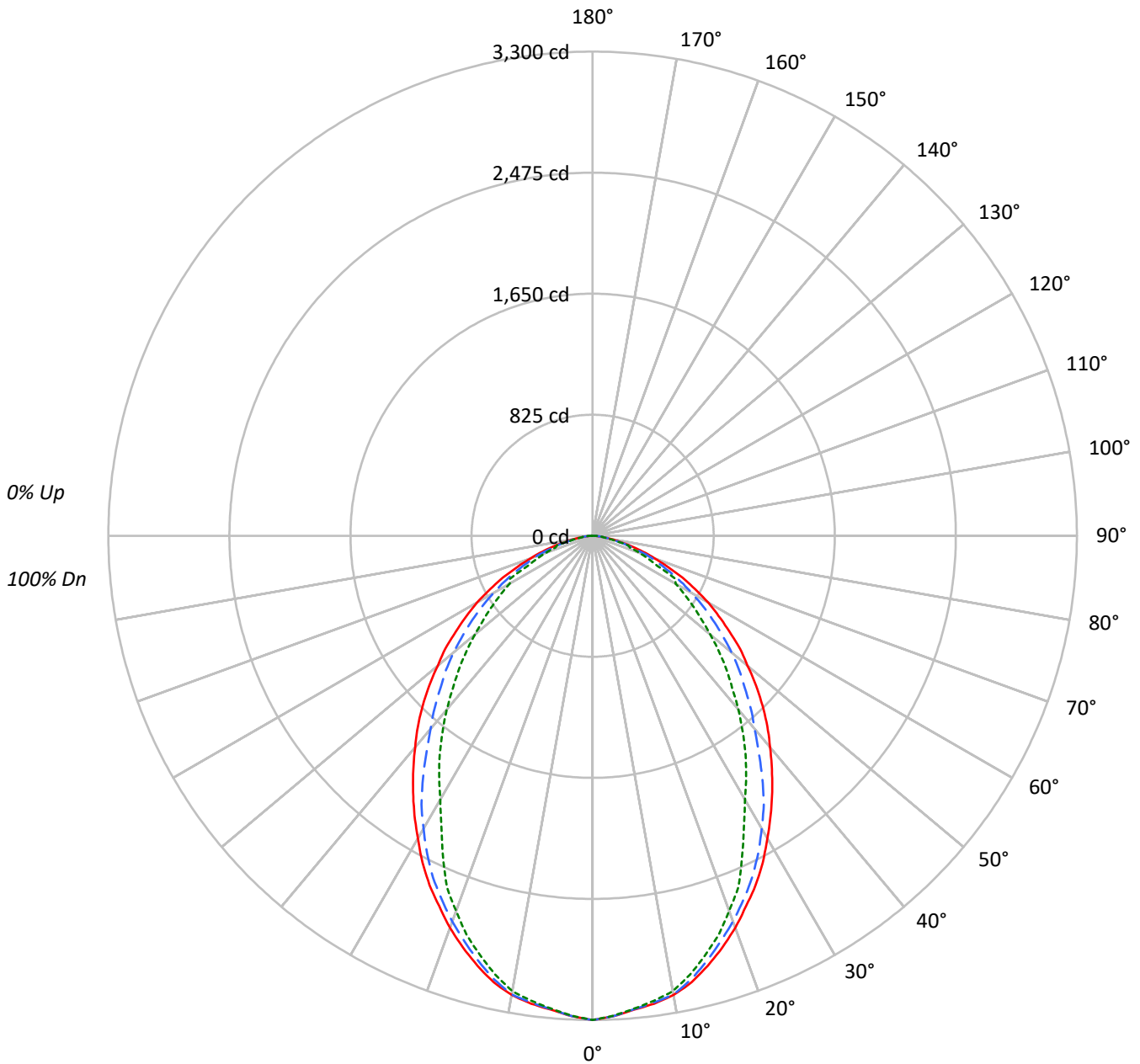
Lumens per Lamp: N/A
Luminaire Lumens: 6479.0 lumens
Efficiency: N/A
Efficacy: 75.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P546124

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-82-94-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°	8881	8881	8881
5°	8760	8750	8740
10°	8684	8674	8611
15°	8450	8365	8248
20°	8140	8009	7790
25°	7805	7636	7160
30°	7398	7161	6449
35°	7006	6618	5966
40°	6608	6031	5428
45°	6229	5576	4908
50°	5766	5175	4376
55°	5334	4690	3920
60°	4887	4189	3511
65°	4300	3668	3110
70°	3542	3212	2642
75°	2817	2460	2578
80°	1892	1774	1655
85°	1179	1414	1649



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	307.2	4.7
10°-20°	843.1	13.0
20°-30°	1167.2	18.0
30°-40°	1244.6	19.2
40°-50°	1135.5	17.5
50°-60°	889.5	13.7
60°-70°	579.8	8.9
70°-80°	256.9	4.0
80°-90°	55.2	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°	2317.6	35.8
0°-40°	3562.2	55.0
0°-60°	5587.2	86.2
0°-90°	6479.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6479.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3300	3300	3300	3300	3300	
5°	3243	3239	3239	3236	3236	308
15°	3033	3033	3003	2972	2961	853
25°	2629	2614	2572	2480	2411	1207
35°	2133	2118	2014	1862	1816	1333
45°	1637	1602	1465	1343	1290	1261
55°	1137	1103	1000	881	836	1020
65°	675	637	576	588	488	666
75°	271	252	237	225	248	290
85°	38	42	46	50	53	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3300.3	3300.3	3300.3	3300.3	3300.3
2.5°	3277.4	3277.4	3277.4	3273.6	3273.6
5°	3243.1	3239.3	3239.3	3235.5	3235.5
7.5°	3216.4	3212.6	3208.7	3204.9	3197.3
10°	3178.2	3178.2	3174.4	3155.3	3151.5
12.5°	3117.2	3113.4	3098.1	3071.4	3063.8
15°	3033.2	3033.2	3002.7	2972.2	2960.7
17.5°	2941.7	2937.9	2899.7	2869.2	2853.9
20°	2842.5	2834.8	2796.7	2747.1	2720.4
22.5°	2731.8	2731.8	2686.0	2621.2	2594.5
25°	2628.8	2613.5	2571.6	2480.0	2411.3
27.5°	2510.5	2487.6	2441.9	2312.1	2232.0
30°	2380.8	2369.4	2304.5	2136.6	2075.6
32.5°	2258.7	2239.6	2171.0	1995.5	1945.9
35°	2132.8	2117.5	2014.5	1861.9	1816.1
37.5°	2006.9	1987.8	1858.1	1736.0	1678.8
40°	1881.0	1858.1	1716.9	1606.3	1545.2
42.5°	1762.7	1732.2	1594.8	1476.6	1407.9
45°	1636.8	1602.5	1465.1	1343.0	1289.6
47.5°	1510.9	1480.4	1354.5	1228.6	1167.5
50°	1377.4	1350.6	1236.2	1110.3	1045.4
52.5°	1266.7	1224.7	1114.1	988.2	934.8
55°	1137.0	1102.6	999.6	881.4	835.6
57.5°	1018.7	984.4	889.0	778.3	740.2
60°	908.1	858.5	778.3	683.0	652.4
62.5°	786.0	747.8	679.1	599.0	637.2
65°	675.3	637.2	576.1	587.6	488.4
67.5°	553.2	534.2	480.7	427.3	412.1
70°	450.2	427.3	408.2	351.0	335.8
72.5°	358.6	335.8	309.0	278.5	267.1
75°	270.9	251.8	236.6	225.1	248.0
77.5°	187.0	179.3	167.9	156.4	152.6
80°	122.1	118.3	114.5	110.6	106.8
82.5°	72.5	72.5	72.5	72.5	72.5
85°	38.2	42.0	45.8	49.6	53.4
87.5°	22.9	22.9	26.7	30.5	34.3
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)