

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: P546310

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-81-97-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: P546310
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-81-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

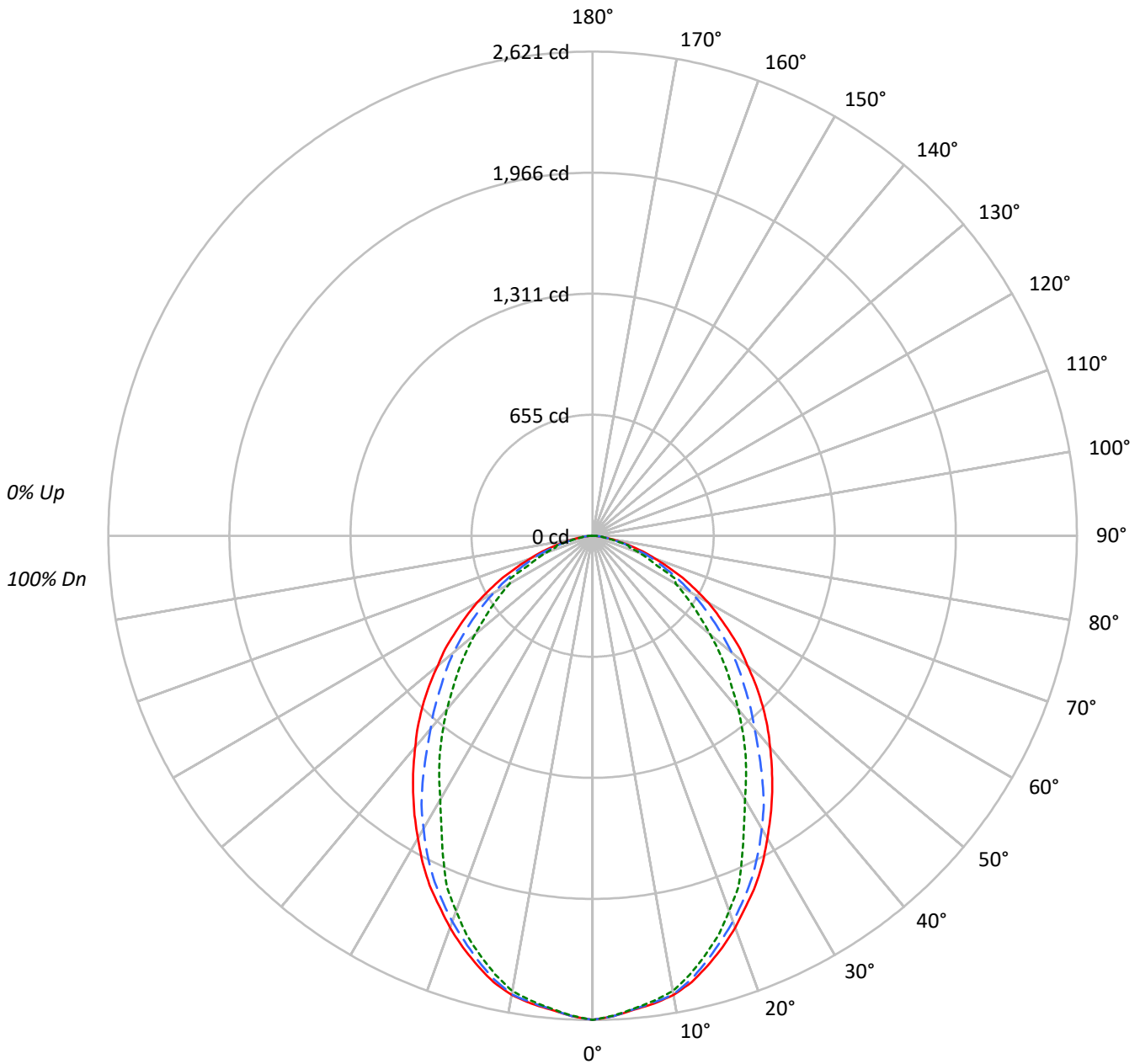
Lumens per Lamp: N/A
Luminaire Lumens: 5145.0 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	7053	7053	7053
5°	6957	6948	6940
10°	6896	6888	6838
15°	6710	6643	6550
20°	6464	6360	6186
25°	6198	6063	5685
30°	5875	5686	5121
35°	5564	5255	4738
40°	5247	4789	4311
45°	4947	4428	3897
50°	4579	4110	3476
55°	4236	3724	3113
60°	3881	3327	2788
65°	3415	2913	2469
70°	2813	2551	2098
75°	2236	1953	2047
80°	1503	1409	1314
85°	936	1124	1309



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.0	4.7
10°-20°	669.5	13.0
20°-30°	926.9	18.0
30°-40°	988.4	19.2
40°-50°	901.7	17.5
50°-60°	706.4	13.7
60°-70°	460.4	8.9
70°-80°	204.0	4.0
80°-90°	43.8	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°	1840.4	35.8
0°-40°	2828.8	55.0
0°-60°	4436.9	86.2
0°-90°	5145.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5145.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2621	2621	2621	2621	2621	
5°	2575	2572	2572	2569	2569	244
15°	2409	2409	2384	2360	2351	677
25°	2088	2075	2042	1969	1915	958
35°	1694	1682	1600	1479	1442	1059
45°	1300	1272	1164	1066	1024	1001
55°	903	876	794	700	664	810
65°	536	506	458	467	388	528
75°	215	200	188	179	197	231
85°	30	33	36	39	42	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2620.8	2620.8	2620.8	2620.8	2620.8
2.5°	2602.6	2602.6	2602.6	2599.6	2599.6
5°	2575.3	2572.3	2572.3	2569.3	2569.3
7.5°	2554.1	2551.1	2548.1	2545.0	2539.0
10°	2523.8	2523.8	2520.8	2505.7	2502.6
12.5°	2475.4	2472.3	2460.2	2439.0	2432.9
15°	2408.7	2408.7	2384.5	2360.2	2351.1
17.5°	2336.0	2333.0	2302.7	2278.4	2266.3
20°	2257.2	2251.2	2220.9	2181.5	2160.3
22.5°	2169.4	2169.4	2133.0	2081.5	2060.3
25°	2087.5	2075.4	2042.1	1969.4	1914.8
27.5°	1993.6	1975.4	1939.1	1836.1	1772.4
30°	1890.6	1881.5	1830.0	1696.7	1648.2
32.5°	1793.7	1778.5	1724.0	1584.6	1545.2
35°	1693.7	1681.6	1599.7	1478.6	1442.2
37.5°	1593.7	1578.5	1475.5	1378.6	1333.1
40°	1493.7	1475.5	1363.4	1275.6	1227.1
42.5°	1399.8	1375.5	1266.5	1172.5	1118.0
45°	1299.8	1272.5	1163.5	1066.5	1024.1
47.5°	1199.8	1175.6	1075.6	975.6	927.1
50°	1093.8	1072.6	981.7	881.7	830.2
52.5°	1005.9	972.6	884.7	784.7	742.3
55°	902.9	875.6	793.8	699.9	663.5
57.5°	809.0	781.7	705.9	618.1	587.8
60°	721.1	681.7	618.1	542.3	518.1
62.5°	624.1	593.8	539.3	475.7	506.0
65°	536.3	506.0	457.5	466.6	387.8
67.5°	439.3	424.2	381.8	339.3	327.2
70°	357.5	339.3	324.2	278.7	266.6
72.5°	284.8	266.6	245.4	221.2	212.1
75°	215.1	200.0	187.8	178.8	196.9
77.5°	148.5	142.4	133.3	124.2	121.2
80°	97.0	93.9	90.9	87.9	84.8
82.5°	57.6	57.6	57.6	57.6	57.6
85°	30.3	33.3	36.4	39.4	42.4
87.5°	18.2	18.2	21.2	24.2	27.3
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)