

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: P546061

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-82-96-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: P546061
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-LD4-1STD-40-UNV-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

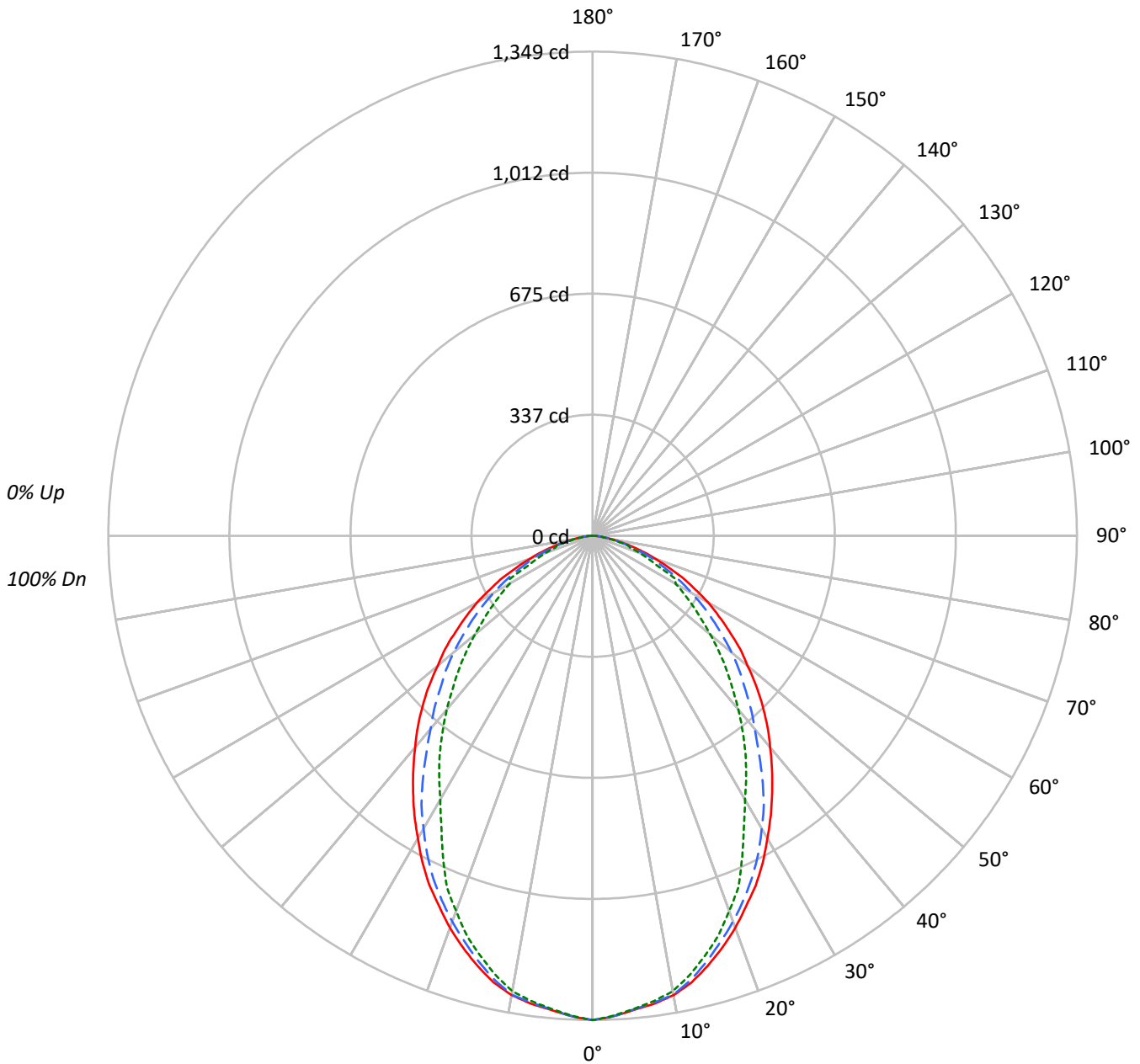
Lumens per Lamp: N/A
Luminaire Lumens: 2649.0 lumens
Efficiency: N/A
Efficacy: 79.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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: P546061

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-82-96-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°	3631	3631	3631
5°	3582	3578	3573
10°	3551	3547	3521
15°	3455	3420	3372
20°	3328	3275	3185
25°	3191	3122	2927
30°	3025	2928	2637
35°	2865	2706	2439
40°	2702	2466	2219
45°	2547	2280	2007
50°	2357	2116	1789
55°	2181	1917	1603
60°	1998	1713	1436
65°	1758	1500	1272
70°	1448	1313	1080
75°	1152	1005	1054
80°	773	725	677
85°	482	577	673



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.6	4.7
10°-20°	344.7	13.0
20°-30°	477.2	18.0
30°-40°	508.9	19.2
40°-50°	464.2	17.5
50°-60°	363.7	13.7
60°-70°	237.0	8.9
70°-80°	105.0	4.0
80°-90°	22.5	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°	947.6	35.8
0°-40°	1456.5	55.0
0°-60°	2284.4	86.2
0°-90°	2649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2649.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1349	1349	1349	1349	1349	
5°	1326	1324	1324	1323	1323	126
15°	1240	1240	1228	1215	1210	349
25°	1075	1069	1051	1014	986	493
35°	872	866	824	761	742	545
45°	669	655	599	549	527	515
55°	465	451	409	360	342	417
65°	276	260	236	240	200	272
75°	111	103	97	92	101	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1349.4	1349.4	1349.4	1349.4	1349.4
2.5°	1340.0	1340.0	1340.0	1338.4	1338.4
5°	1326.0	1324.4	1324.4	1322.8	1322.8
7.5°	1315.0	1313.5	1311.9	1310.4	1307.2
10°	1299.4	1299.4	1297.9	1290.1	1288.5
12.5°	1274.5	1272.9	1266.7	1255.8	1252.6
15°	1240.2	1240.2	1227.7	1215.2	1210.5
17.5°	1202.7	1201.2	1185.6	1173.1	1166.8
20°	1162.2	1159.1	1143.5	1123.2	1112.3
22.5°	1116.9	1116.9	1098.2	1071.7	1060.8
25°	1074.8	1068.6	1051.4	1014.0	985.9
27.5°	1026.5	1017.1	998.4	945.3	912.6
30°	973.4	968.7	942.2	873.6	848.6
32.5°	923.5	915.7	887.6	815.9	795.6
35°	872.0	865.8	823.7	761.3	742.5
37.5°	820.5	812.7	759.7	709.8	686.4
40°	769.1	759.7	702.0	656.7	631.8
42.5°	720.7	708.2	652.1	603.7	575.6
45°	669.2	655.2	599.0	549.1	527.3
47.5°	617.7	605.3	553.8	502.3	477.3
50°	563.1	552.2	505.4	453.9	427.4
52.5°	517.9	500.7	455.5	404.0	382.2
55°	464.9	450.8	408.7	360.4	341.6
57.5°	416.5	402.5	363.5	318.2	302.6
60°	371.3	351.0	318.2	279.2	266.8
62.5°	321.4	305.8	277.7	244.9	260.5
65°	276.1	260.5	235.6	240.2	199.7
67.5°	226.2	218.4	196.6	174.7	168.5
70°	184.1	174.7	166.9	143.5	137.3
72.5°	146.6	137.3	126.4	113.9	109.2
75°	110.8	103.0	96.7	92.0	101.4
77.5°	76.4	73.3	68.6	64.0	62.4
80°	49.9	48.4	46.8	45.2	43.7
82.5°	29.6	29.6	29.6	29.6	29.6
85°	15.6	17.2	18.7	20.3	21.8
87.5°	9.4	9.4	10.9	12.5	14.0
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)