

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: P545871

Luminaire Tested: **FMR-12-4-LD4-1HI-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: P545871
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-LD4-1HI-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

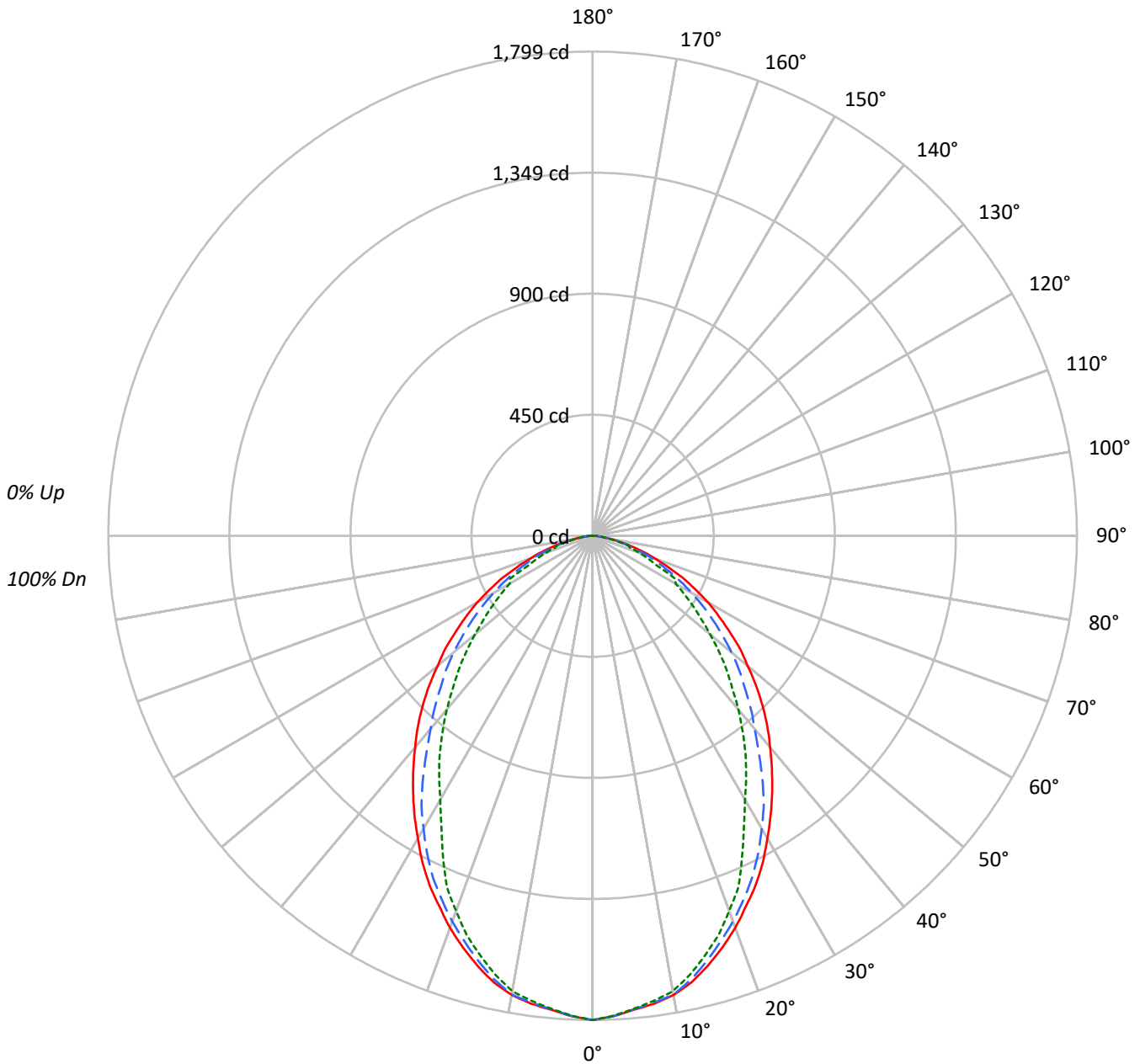
Lumens per Lamp: N/A
Luminaire Lumens: 3532.0 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	4842	4842	4842
5°	4776	4770	4764
10°	4734	4729	4694
15°	4607	4560	4496
20°	4438	4366	4247
25°	4255	4162	3903
30°	4033	3904	3516
35°	3820	3608	3253
40°	3602	3288	2959
45°	3396	3040	2675
50°	3144	2821	2386
55°	2908	2556	2137
60°	2664	2284	1914
65°	2344	2000	1695
70°	1931	1751	1440
75°	1536	1341	1406
80°	1032	967	902
85°	642	772	898



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.5	4.7
10°-20°	459.6	13.0
20°-30°	636.3	18.0
30°-40°	678.5	19.2
40°-50°	619.0	17.5
50°-60°	484.9	13.7
60°-70°	316.1	8.9
70°-80°	140.0	4.0
80°-90°	30.1	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°	1263.4	35.8
0°-40°	1941.9	55.0
0°-60°	3045.9	86.2
0°-90°	3532.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3532.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1799	1799	1799	1799	1799	
5°	1768	1766	1766	1764	1764	168
15°	1654	1654	1637	1620	1614	465
25°	1433	1425	1402	1352	1314	658
35°	1163	1154	1098	1015	990	727
45°	892	874	799	732	703	687
55°	620	601	545	480	456	556
65°	368	347	314	320	266	363
75°	148	137	129	123	135	158
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1799.2	1799.2	1799.2	1799.2	1799.2
2.5°	1786.7	1786.7	1786.7	1784.6	1784.6
5°	1768.0	1765.9	1765.9	1763.8	1763.8
7.5°	1753.4	1751.3	1749.2	1747.2	1743.0
10°	1732.6	1732.6	1730.5	1720.1	1718.0
12.5°	1699.3	1697.2	1688.9	1674.4	1670.2
15°	1653.6	1653.6	1636.9	1620.3	1614.0
17.5°	1603.6	1601.6	1580.8	1564.1	1555.8
20°	1549.6	1545.4	1524.6	1497.6	1483.0
22.5°	1489.2	1489.2	1464.3	1428.9	1414.4
25°	1433.1	1424.8	1401.9	1352.0	1314.5
27.5°	1368.6	1356.1	1331.2	1260.4	1216.8
30°	1297.9	1291.6	1256.3	1164.8	1131.5
32.5°	1231.3	1220.9	1183.5	1087.8	1060.8
35°	1162.7	1154.4	1098.2	1015.0	990.1
37.5°	1094.1	1083.7	1012.9	946.4	915.2
40°	1025.4	1012.9	936.0	875.7	842.4
42.5°	960.9	944.3	869.4	804.9	767.5
45°	892.3	873.6	798.7	732.1	703.0
47.5°	823.7	807.0	738.4	669.7	636.5
50°	750.9	736.3	673.9	605.3	569.9
52.5°	690.5	667.7	607.3	538.7	509.6
55°	619.8	601.1	544.9	480.5	455.5
57.5°	555.3	536.6	484.6	424.3	403.5
60°	495.0	468.0	424.3	372.3	355.7
62.5°	428.5	407.7	370.2	326.6	347.4
65°	368.2	347.4	314.1	320.3	266.2
67.5°	301.6	291.2	262.1	233.0	224.6
70°	245.4	233.0	222.6	191.4	183.0
72.5°	195.5	183.0	168.5	151.8	145.6
75°	147.7	137.3	129.0	122.7	135.2
77.5°	101.9	97.8	91.5	85.3	83.2
80°	66.6	64.5	62.4	60.3	58.2
82.5°	39.5	39.5	39.5	39.5	39.5
85°	20.8	22.9	25.0	27.0	29.1
87.5°	12.5	12.5	14.6	16.6	18.7
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)