

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: P546218

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-82-87-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: P546218
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-LD4-2LO-35-UNV-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

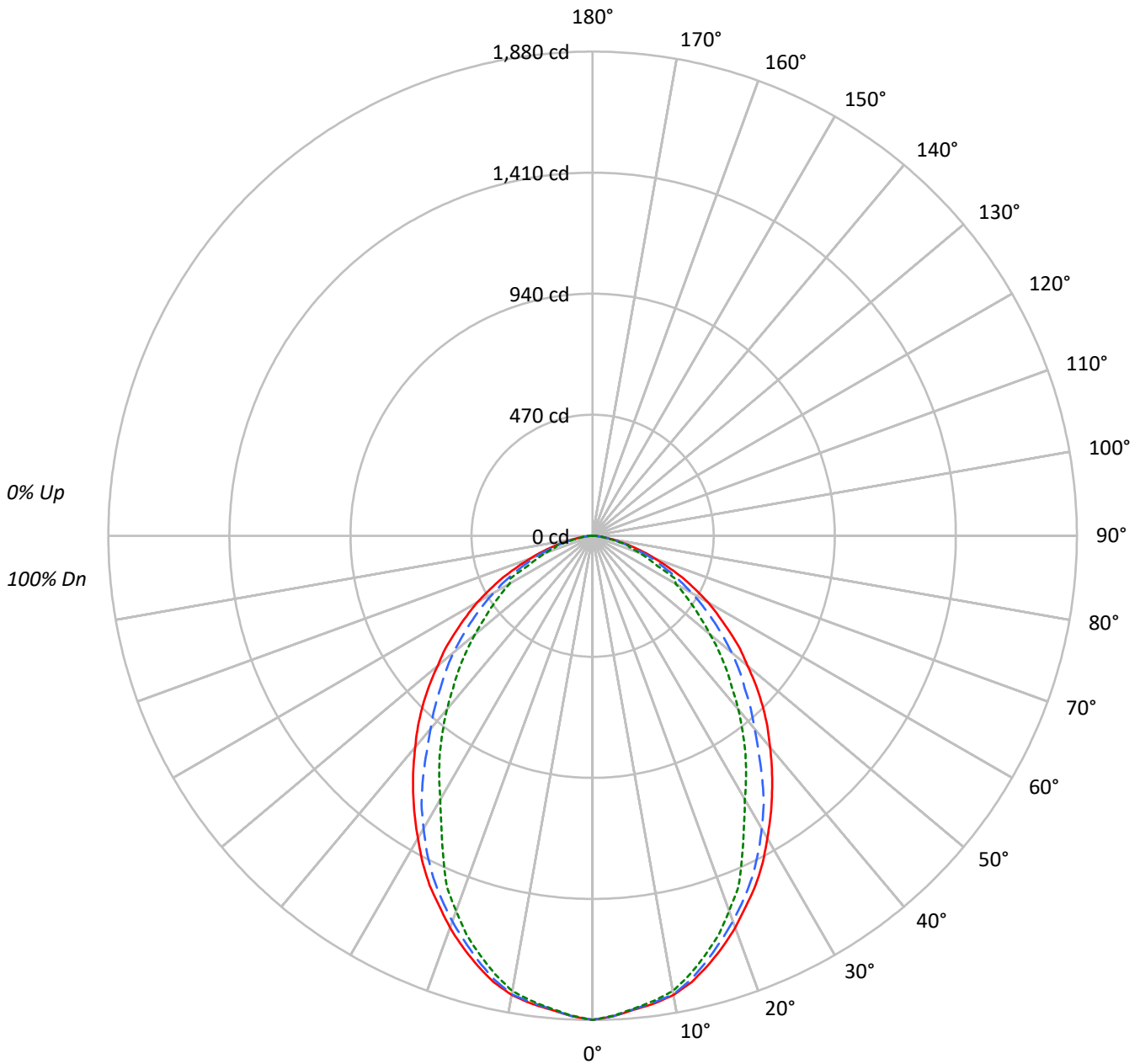
Lumens per Lamp: N/A
Luminaire Lumens: 3690.0 lumens
Efficiency: N/A
Efficacy: 78.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5058	5058	5058
5°	4989	4984	4978
10°	4946	4940	4905
15°	4813	4764	4698
20°	4636	4561	4437
25°	4445	4349	4078
30°	4213	4078	3673
35°	3990	3769	3398
40°	3763	3435	3092
45°	3548	3175	2795
50°	3284	2947	2493
55°	3038	2671	2233
60°	2784	2386	2000
65°	2449	2089	1771
70°	2017	1829	1504
75°	1604	1400	1468
80°	1077	1010	942
85°	670	806	939



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.0	4.7
10°-20°	480.2	13.0
20°-30°	664.8	18.0
30°-40°	708.8	19.2
40°-50°	646.7	17.5
50°-60°	506.6	13.7
60°-70°	330.2	8.9
70°-80°	146.3	4.0
80°-90°	31.4	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°	1319.9	35.8
0°-40°	2028.8	55.0
0°-60°	3182.1	86.2
0°-90°	3690.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3690.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1880	1880	1880	1880	1880	
5°	1847	1845	1845	1843	1843	175
15°	1728	1728	1710	1693	1686	486
25°	1497	1488	1465	1412	1373	687
35°	1215	1206	1147	1060	1034	759
45°	932	913	834	765	734	718
55°	648	628	569	502	476	581
65°	385	363	328	335	278	379
75°	154	143	135	128	141	165
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1879.6	1879.6	1879.6	1879.6	1879.6
2.5°	1866.6	1866.6	1866.6	1864.4	1864.4
5°	1847.0	1844.9	1844.9	1842.7	1842.7
7.5°	1831.8	1829.7	1827.5	1825.3	1821.0
10°	1810.1	1810.1	1807.9	1797.1	1794.9
12.5°	1775.3	1773.2	1764.5	1749.3	1744.9
15°	1727.5	1727.5	1710.1	1692.8	1686.2
17.5°	1675.4	1673.2	1651.5	1634.1	1625.4
20°	1618.9	1614.5	1592.8	1564.6	1549.3
22.5°	1555.9	1555.9	1529.8	1492.8	1477.6
25°	1497.2	1488.5	1464.6	1412.4	1373.3
27.5°	1429.8	1416.8	1390.7	1316.8	1271.2
30°	1355.9	1349.4	1312.5	1216.9	1182.1
32.5°	1286.4	1275.5	1236.4	1136.5	1108.2
35°	1214.7	1206.0	1147.3	1060.4	1034.3
37.5°	1143.0	1132.1	1058.2	988.7	956.1
40°	1071.3	1058.2	977.8	914.8	880.1
42.5°	1003.9	986.5	908.3	840.9	801.8
45°	932.2	912.7	834.4	764.9	734.5
47.5°	860.5	843.1	771.4	699.7	664.9
50°	784.4	769.2	704.0	632.3	595.4
52.5°	721.4	697.5	634.5	562.8	532.4
55°	647.6	628.0	569.3	502.0	475.9
57.5°	580.2	560.6	506.3	443.3	421.6
60°	517.2	488.9	443.3	389.0	371.6
62.5°	447.6	425.9	386.8	341.2	362.9
65°	384.6	362.9	328.1	334.6	278.1
67.5°	315.1	304.2	273.8	243.4	234.7
70°	256.4	243.4	232.5	199.9	191.2
72.5°	204.3	191.2	176.0	158.6	152.1
75°	154.3	143.4	134.7	128.2	141.2
77.5°	106.5	102.1	95.6	89.1	86.9
80°	69.5	67.4	65.2	63.0	60.8
82.5°	41.3	41.3	41.3	41.3	41.3
85°	21.7	23.9	26.1	28.2	30.4
87.5°	13.0	13.0	15.2	17.4	19.6
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)