

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: P545881

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-80-86-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: P545881
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-50-UNV-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

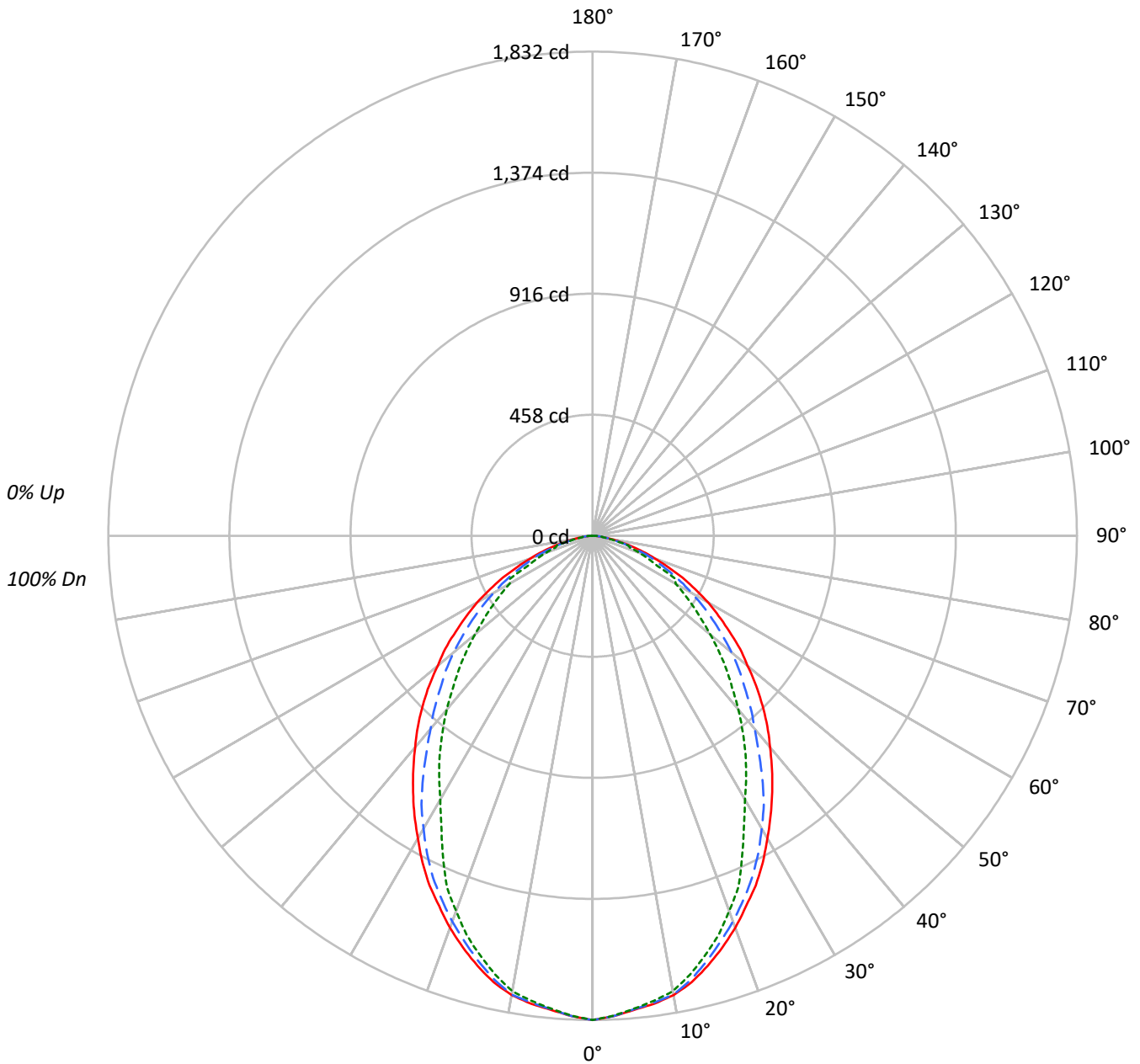
Lumens per Lamp: N/A
Luminaire Lumens: 3597.0 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	4931	4931	4931
5°	4864	4858	4852
10°	4821	4816	4781
15°	4691	4644	4579
20°	4519	4446	4325
25°	4333	4239	3975
30°	4107	3975	3581
35°	3890	3674	3312
40°	3668	3348	3014
45°	3458	3095	2725
50°	3201	2873	2430
55°	2961	2604	2176
60°	2713	2326	1949
65°	2387	2037	1726
70°	1967	1783	1467
75°	1564	1365	1432
80°	1051	984	919
85°	655	784	917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.6	4.7
10°-20°	468.1	13.0
20°-30°	648.0	18.0
30°-40°	691.0	19.2
40°-50°	630.4	17.5
50°-60°	493.9	13.7
60°-70°	321.9	8.9
70°-80°	142.6	4.0
80°-90°	30.6	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°	1286.7	35.8
0°-40°	1977.7	55.0
0°-60°	3101.9	86.2
0°-90°	3597.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3597.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1832	1832	1832	1832	1832	
5°	1800	1798	1798	1796	1796	171
15°	1684	1684	1667	1650	1644	473
25°	1460	1451	1428	1377	1339	670
35°	1184	1176	1118	1034	1008	740
45°	909	890	813	746	716	700
55°	631	612	555	489	464	566
65°	375	354	320	326	271	369
75°	150	140	131	125	138	161
85°	21	23	25	28	30	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1832.3	1832.3	1832.3	1832.3	1832.3
2.5°	1819.6	1819.6	1819.6	1817.4	1817.4
5°	1800.5	1798.4	1798.4	1796.3	1796.3
7.5°	1785.7	1783.5	1781.4	1779.3	1775.1
10°	1764.5	1764.5	1762.4	1751.8	1749.7
12.5°	1730.6	1728.5	1720.0	1705.2	1700.9
15°	1684.0	1684.0	1667.0	1650.1	1643.7
17.5°	1633.2	1631.0	1609.9	1592.9	1584.4
20°	1578.1	1573.8	1552.7	1525.1	1510.3
22.5°	1516.6	1516.6	1491.2	1455.2	1440.4
25°	1459.5	1451.0	1427.7	1376.8	1338.7
27.5°	1393.8	1381.1	1355.7	1283.6	1239.2
30°	1321.8	1315.4	1279.4	1186.2	1152.3
32.5°	1254.0	1243.4	1205.3	1107.8	1080.3
35°	1184.1	1175.6	1118.4	1033.7	1008.3
37.5°	1114.2	1103.6	1031.6	963.8	932.0
40°	1044.3	1031.6	953.2	891.8	857.9
42.5°	978.6	961.7	885.4	819.8	781.6
45°	908.7	889.7	813.4	745.6	716.0
47.5°	838.8	821.9	752.0	682.1	648.2
50°	764.7	749.9	686.3	616.4	580.4
52.5°	703.3	679.9	618.5	548.6	519.0
55°	631.2	612.2	555.0	489.3	463.9
57.5°	565.6	546.5	493.5	432.1	410.9
60°	504.1	476.6	432.1	379.2	362.2
62.5°	436.4	415.2	377.0	332.6	353.7
65°	374.9	353.7	319.9	326.2	271.1
67.5°	307.1	296.6	266.9	237.2	228.8
70°	250.0	237.2	226.6	194.9	186.4
72.5°	199.1	186.4	171.6	154.6	148.3
75°	150.4	139.8	131.3	125.0	137.7
77.5°	103.8	99.6	93.2	86.8	84.7
80°	67.8	65.7	63.5	61.4	59.3
82.5°	40.2	40.2	40.2	40.2	40.2
85°	21.2	23.3	25.4	27.5	29.7
87.5°	12.7	12.7	14.8	16.9	19.1
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)