

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: P546340

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-81-94-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: P546340
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-40-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

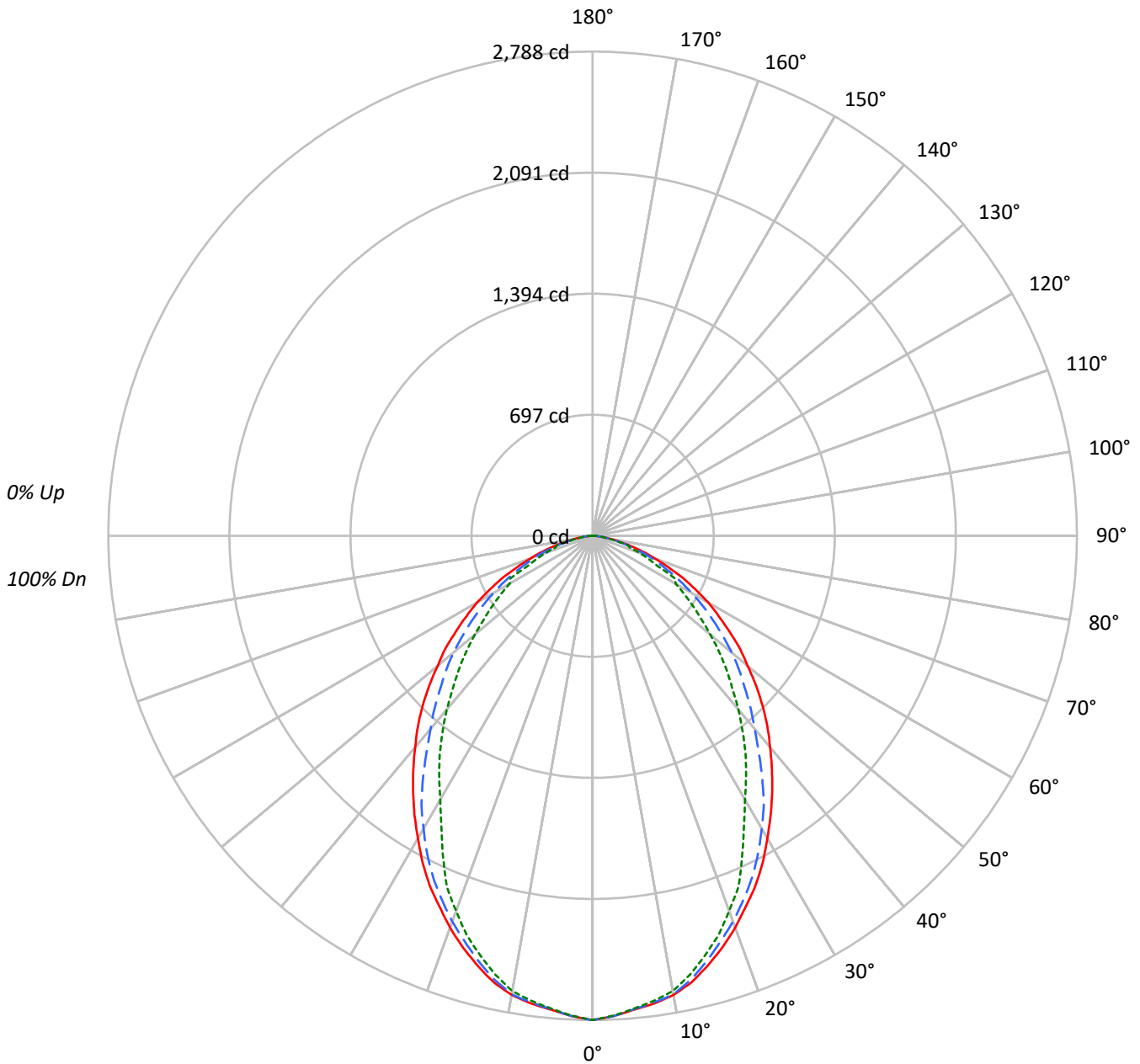
Lumens per Lamp: N/A
Luminaire Lumens: 5473.0 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	7502	7502	7502
5°	7400	7391	7383
10°	7336	7327	7274
15°	7138	7066	6968
20°	6876	6765	6581
25°	6593	6450	6048
30°	6249	6049	5448
35°	5918	5590	5040
40°	5582	5095	4585
45°	5262	4710	4146
50°	4871	4371	3697
55°	4506	3962	3311
60°	4128	3539	2966
65°	3633	3099	2627
70°	2992	2714	2231
75°	2379	2077	2178
80°	1598	1499	1398
85°	994	1195	1392



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.5	4.7
10°-20°	712.2	13.0
20°-30°	986.0	18.0
30°-40°	1051.4	19.2
40°-50°	959.2	17.5
50°-60°	751.4	13.7
60°-70°	489.7	8.9
70°-80°	217.0	4.0
80°-90°	46.6	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°	1957.7	35.8
0°-40°	3009.1	55.0
0°-60°	4719.7	86.2
0°-90°	5473.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5473.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2788	2788	2788	2788	2788	
5°	2740	2736	2736	2733	2733	260
15°	2562	2562	2536	2511	2501	720
25°	2221	2208	2172	2095	2037	1019
35°	1802	1789	1702	1573	1534	1126
45°	1383	1354	1238	1134	1089	1065
55°	960	931	844	744	706	861
65°	570	538	487	496	412	562
75°	229	213	200	190	210	245
85°	32	36	39	42	45	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2787.9	2787.9	2787.9	2787.9	2787.9
2.5°	2768.5	2768.5	2768.5	2765.3	2765.3
5°	2739.5	2736.3	2736.3	2733.1	2733.1
7.5°	2717.0	2713.7	2710.5	2707.3	2700.9
10°	2684.7	2684.7	2681.5	2665.4	2662.2
12.5°	2633.2	2629.9	2617.1	2594.5	2588.0
15°	2562.3	2562.3	2536.5	2510.7	2501.0
17.5°	2484.9	2481.7	2449.5	2423.7	2410.8
20°	2401.1	2394.7	2362.4	2320.5	2298.0
22.5°	2307.6	2307.6	2269.0	2214.2	2191.6
25°	2220.6	2207.7	2172.3	2094.9	2036.9
27.5°	2120.7	2101.4	2062.7	1953.1	1885.4
30°	2011.1	2001.5	1946.7	1804.9	1753.3
32.5°	1908.0	1891.9	1833.9	1685.6	1643.7
35°	1801.6	1788.8	1701.7	1572.8	1534.1
37.5°	1695.3	1679.2	1569.6	1466.5	1418.1
40°	1588.9	1569.6	1450.3	1356.9	1305.3
42.5°	1489.0	1463.2	1347.2	1247.3	1189.3
45°	1382.7	1353.6	1237.6	1134.5	1089.4
47.5°	1276.3	1250.5	1144.2	1037.8	986.2
50°	1163.5	1140.9	1044.2	937.9	883.1
52.5°	1070.0	1034.6	941.1	834.8	789.6
55°	960.4	931.4	844.4	744.5	705.8
57.5°	860.5	831.5	751.0	657.5	625.3
60°	767.1	725.2	657.5	576.9	551.1
62.5°	663.9	631.7	573.7	506.0	538.2
65°	570.5	538.2	486.7	496.3	412.5
67.5°	467.3	451.2	406.1	361.0	348.1
70°	380.3	361.0	344.9	296.5	283.6
72.5°	303.0	283.6	261.1	235.3	225.6
75°	228.8	212.7	199.8	190.2	209.5
77.5°	157.9	151.5	141.8	132.1	128.9
80°	103.1	99.9	96.7	93.5	90.2
82.5°	61.2	61.2	61.2	61.2	61.2
85°	32.2	35.5	38.7	41.9	45.1
87.5°	19.3	19.3	22.6	25.8	29.0
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)