

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: P546350

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-97-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: P546350
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-82-97-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

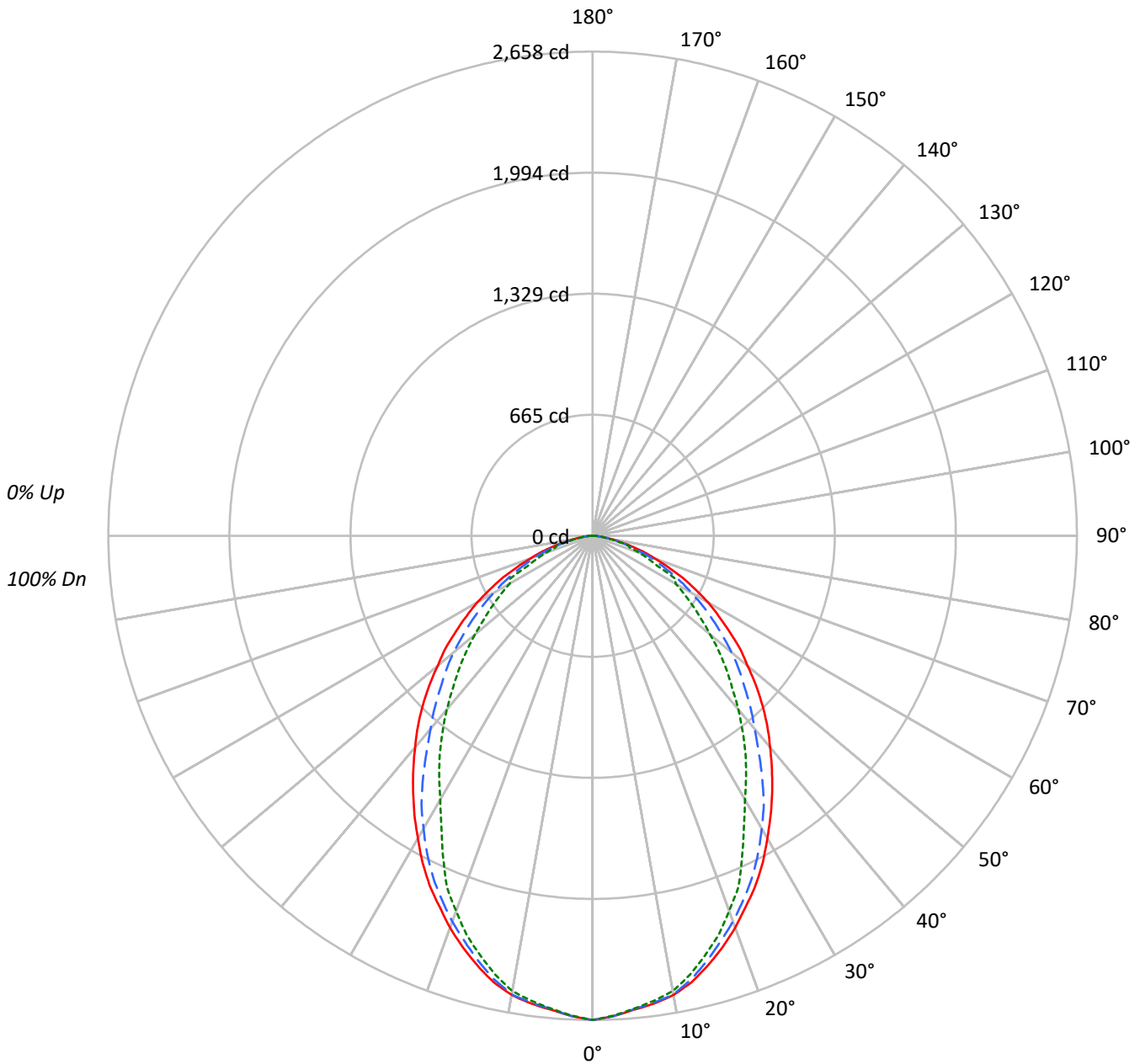
Lumens per Lamp: N/A
Luminaire Lumens: 5218.0 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	7153	7153	7153
5°	7055	7047	7039
10°	6994	6986	6935
15°	6806	6737	6643
20°	6556	6450	6274
25°	6286	6149	5766
30°	5958	5767	5194
35°	5643	5330	4805
40°	5322	4858	4372
45°	5017	4491	3953
50°	4644	4168	3525
55°	4296	3777	3157
60°	3936	3374	2828
65°	3463	2954	2504
70°	2853	2587	2127
75°	2269	1981	2076
80°	1523	1429	1333
85°	948	1139	1328



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.4	4.7
10°-20°	679.0	13.0
20°-30°	940.1	18.0
30°-40°	1002.4	19.2
40°-50°	914.5	17.5
50°-60°	716.4	13.7
60°-70°	466.9	8.9
70°-80°	206.9	4.0
80°-90°	44.4	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°	1866.5	35.8
0°-40°	2868.9	55.0
0°-60°	4499.8	86.2
0°-90°	5218.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5218.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2658	2658	2658	2658	2658	
5°	2612	2609	2609	2606	2606	248
15°	2443	2443	2418	2394	2384	687
25°	2117	2105	2071	1997	1942	972
35°	1718	1705	1622	1500	1463	1074
45°	1318	1291	1180	1082	1039	1015
55°	916	888	805	710	673	821
65°	544	513	464	473	393	536
75°	218	203	190	181	200	234
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2658.0	2658.0	2658.0	2658.0	2658.0
2.5°	2639.5	2639.5	2639.5	2636.5	2636.5
5°	2611.9	2608.8	2608.8	2605.7	2605.7
7.5°	2590.4	2587.3	2584.2	2581.2	2575.0
10°	2559.6	2559.6	2556.6	2541.2	2538.1
12.5°	2510.5	2507.4	2495.1	2473.6	2467.5
15°	2442.9	2442.9	2418.3	2393.7	2384.5
17.5°	2369.1	2366.1	2335.3	2310.8	2298.5
20°	2289.2	2283.1	2252.4	2212.4	2190.9
22.5°	2200.1	2200.1	2163.3	2111.0	2089.5
25°	2117.2	2104.9	2071.1	1997.3	1942.0
27.5°	2021.9	2003.5	1966.6	1862.1	1797.6
30°	1917.4	1908.2	1856.0	1720.8	1671.6
32.5°	1819.1	1803.7	1748.4	1607.1	1567.1
35°	1717.7	1705.4	1622.4	1499.5	1462.7
37.5°	1616.3	1600.9	1496.5	1398.1	1352.0
40°	1514.9	1496.5	1382.8	1293.7	1244.5
42.5°	1419.6	1395.1	1284.4	1189.2	1133.9
45°	1318.2	1290.6	1180.0	1081.6	1038.6
47.5°	1216.8	1192.2	1090.8	989.4	940.3
50°	1109.3	1087.8	995.6	894.2	841.9
52.5°	1020.2	986.4	897.3	795.9	752.8
55°	915.7	888.0	805.1	709.8	672.9
57.5°	820.4	792.8	716.0	626.9	596.1
60°	731.3	691.4	626.9	550.0	525.5
62.5°	633.0	602.3	547.0	482.4	513.2
65°	543.9	513.2	464.0	473.2	393.3
67.5°	445.6	430.2	387.2	344.2	331.9
70°	362.6	344.2	328.8	282.7	270.4
72.5°	288.8	270.4	248.9	224.3	215.1
75°	218.2	202.8	190.5	181.3	199.7
77.5°	150.6	144.4	135.2	126.0	122.9
80°	98.3	95.3	92.2	89.1	86.0
82.5°	58.4	58.4	58.4	58.4	58.4
85°	30.7	33.8	36.9	39.9	43.0
87.5°	18.4	18.4	21.5	24.6	27.7
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)