

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: P546030

Luminaire Tested: **FMR-12-4-LD4-1STD-35-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: P546030
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-LD4-1STD-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

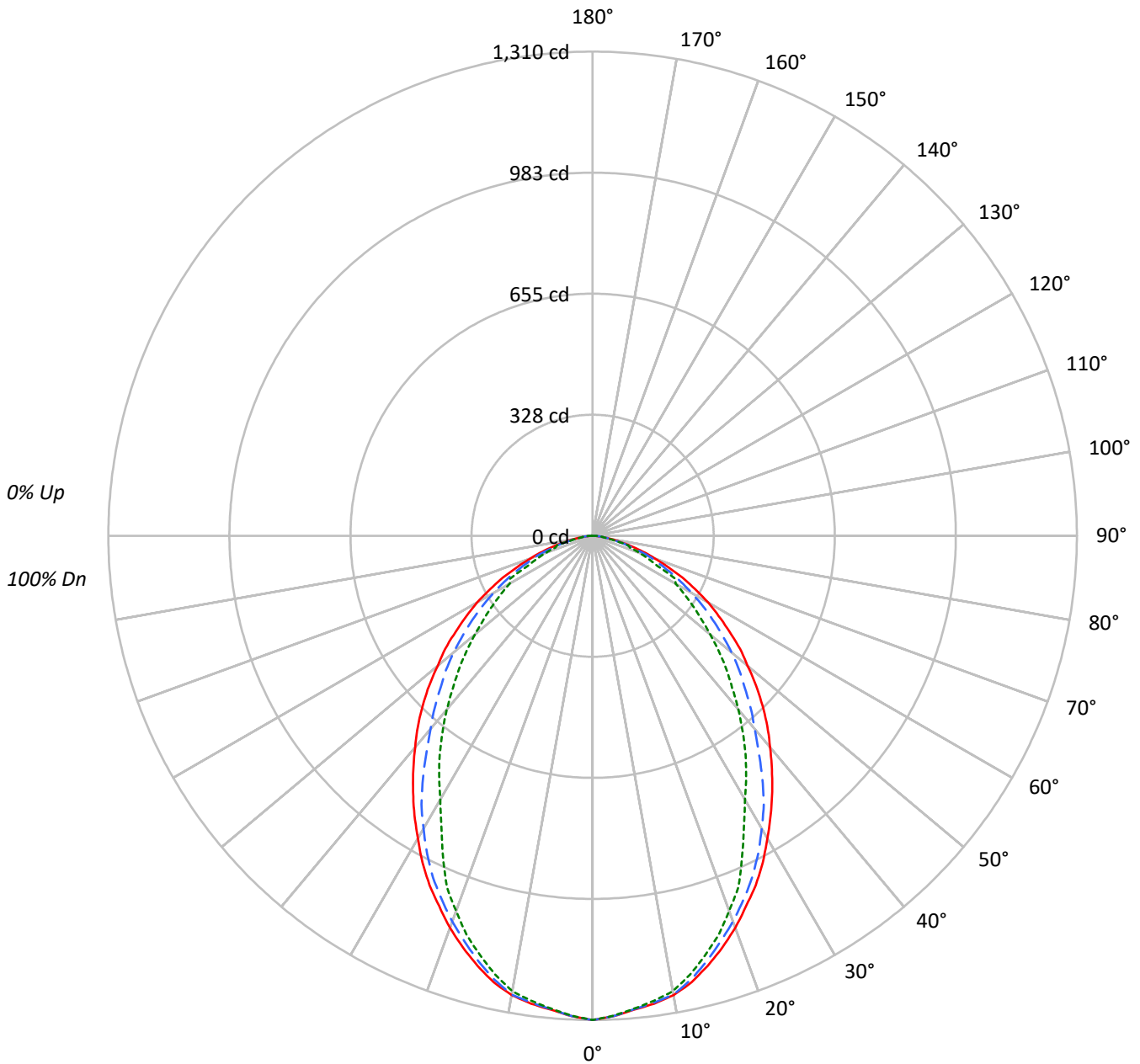
Lumens per Lamp: N/A
Luminaire Lumens: 2572.0 lumens
Efficiency: N/A
Efficacy: 77.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	3525	3525	3525
5°	3478	3474	3469
10°	3448	3443	3419
15°	3355	3321	3274
20°	3231	3179	3092
25°	3099	3031	2842
30°	2937	2843	2560
35°	2781	2627	2369
40°	2623	2394	2155
45°	2473	2213	1948
50°	2289	2054	1737
55°	2118	1862	1556
60°	1940	1663	1394
65°	1707	1456	1235
70°	1406	1275	1049
75°	1118	976	1024
80°	752	704	657
85°	466	562	655



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	4.7
10°-20°	334.7	13.0
20°-30°	463.4	18.0
30°-40°	494.1	19.2
40°-50°	450.8	17.5
50°-60°	353.1	13.7
60°-70°	230.1	8.9
70°-80°	102.0	4.0
80°-90°	21.9	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°	920.0	35.8
0°-40°	1414.1	55.0
0°-60°	2218.0	86.2
0°-90°	2572.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2572.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1310	1310	1310	1310	1310	
5°	1287	1286	1286	1284	1284	122
15°	1204	1204	1192	1180	1175	339
25°	1044	1038	1021	984	957	479
35°	847	841	800	739	721	529
45°	650	636	582	533	512	501
55°	451	438	397	350	332	405
65°	268	253	229	233	194	264
75°	108	100	94	89	98	115
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1310.1	1310.1	1310.1	1310.1	1310.1
2.5°	1301.1	1301.1	1301.1	1299.5	1299.5
5°	1287.4	1285.9	1285.9	1284.4	1284.4
7.5°	1276.8	1275.3	1273.8	1272.3	1269.2
10°	1261.7	1261.7	1260.2	1252.6	1251.1
12.5°	1237.4	1235.9	1229.9	1219.3	1216.2
15°	1204.1	1204.1	1192.0	1179.9	1175.3
17.5°	1167.8	1166.3	1151.1	1139.0	1132.9
20°	1128.4	1125.4	1110.2	1090.5	1079.9
22.5°	1084.5	1084.5	1066.3	1040.5	1029.9
25°	1043.6	1037.5	1020.9	984.5	957.2
27.5°	996.6	987.5	969.4	917.9	886.1
30°	945.1	940.6	914.8	848.2	824.0
32.5°	896.7	889.1	861.8	792.1	772.5
35°	846.7	840.6	799.7	739.1	721.0
37.5°	796.7	789.1	737.6	689.2	666.4
40°	746.7	737.6	681.6	637.7	613.4
42.5°	699.8	687.6	633.1	586.2	558.9
45°	649.8	636.1	581.6	533.1	511.9
47.5°	599.8	587.7	537.7	487.7	463.5
50°	546.8	536.2	490.7	440.8	415.0
52.5°	502.9	486.2	442.3	392.3	371.1
55°	451.4	437.7	396.8	349.9	331.7
57.5°	404.4	390.8	352.9	309.0	293.8
60°	360.5	340.8	309.0	271.1	259.0
62.5°	312.0	296.9	269.6	237.8	252.9
65°	268.1	252.9	228.7	233.3	193.9
67.5°	219.6	212.0	190.8	169.6	163.6
70°	178.7	169.6	162.1	139.3	133.3
72.5°	142.4	133.3	122.7	110.6	106.0
75°	107.5	100.0	93.9	89.4	98.5
77.5°	74.2	71.2	66.6	62.1	60.6
80°	48.5	47.0	45.4	43.9	42.4
82.5°	28.8	28.8	28.8	28.8	28.8
85°	15.1	16.7	18.2	19.7	21.2
87.5°	9.1	9.1	10.6	12.1	13.6
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)