

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: P547180

Luminaire Tested: **FMR-24-4-LD4-3STD-35-UNV-82-94-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: P547180
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-24-4-LD4-3STD-35-UNV-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

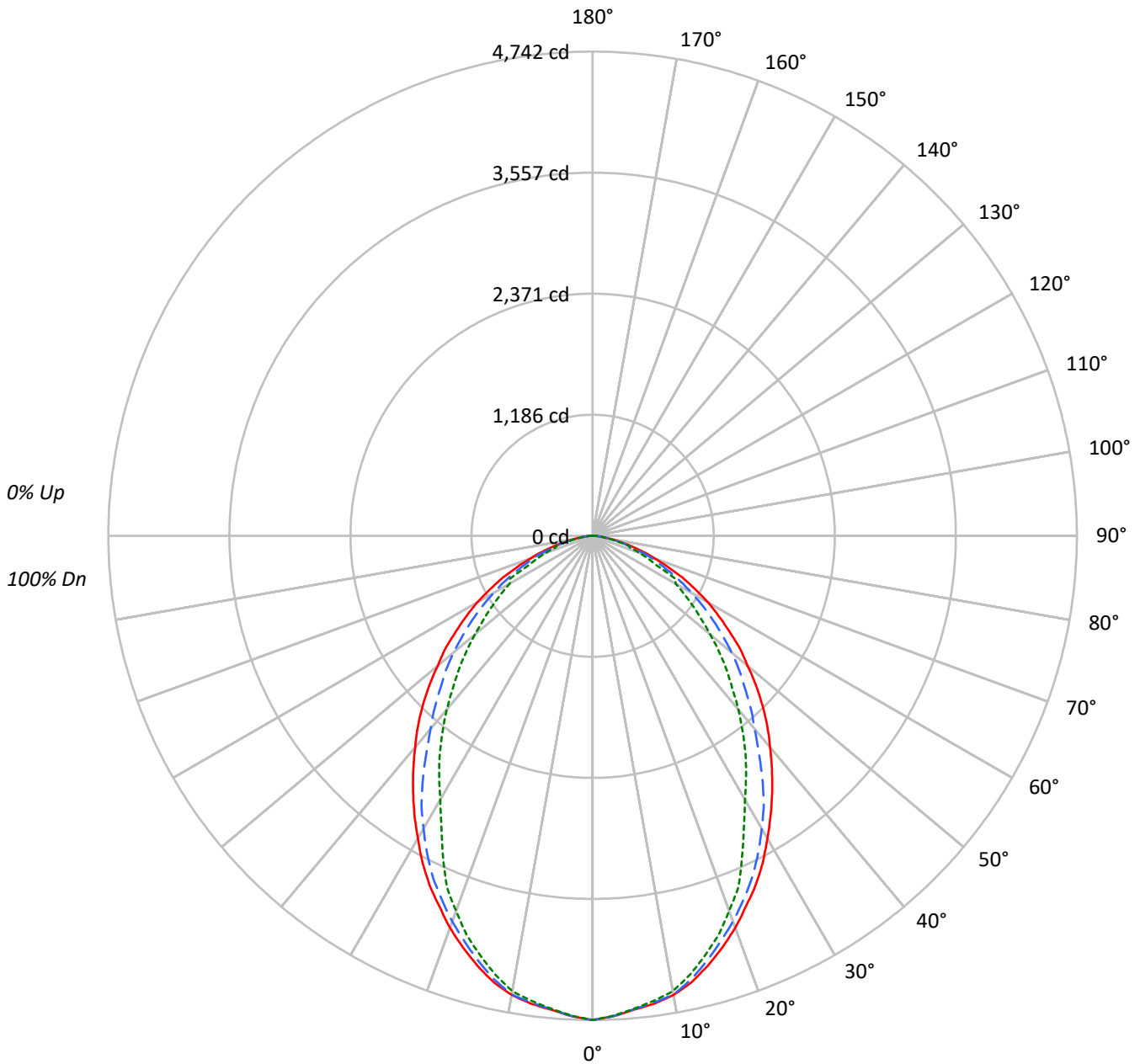
Lumens per Lamp: N/A
Luminaire Lumens: 9310.0 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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°	6381	6381	6381
5°	6294	6287	6279
10°	6240	6232	6187
15°	6071	6010	5926
20°	5848	5754	5597
25°	5608	5486	5144
30°	5315	5145	4634
35°	5034	4755	4287
40°	4747	4333	3900
45°	4475	4006	3526
50°	4143	3718	3144
55°	3833	3369	2817
60°	3511	3010	2523
65°	3089	2636	2234
70°	2545	2308	1898
75°	2024	1767	1853
80°	1359	1275	1189
85°	846	1016	1186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	441.5	4.7
10°-20°	1211.5	13.0
20°-30°	1677.3	18.0
30°-40°	1788.5	19.2
40°-50°	1631.6	17.5
50°-60°	1278.2	13.7
60°-70°	833.1	8.9
70°-80°	369.1	4.0
80°-90°	79.3	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°	3330.3	35.8
0°-40°	5118.7	55.0
0°-60°	8028.6	86.2
0°-90°	9310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9310.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4742	4742	4742	4742	4742	
5°	4660	4655	4655	4649	4649	442
15°	4359	4359	4315	4271	4254	1225
25°	3778	3756	3695	3564	3465	1734
35°	3065	3043	2895	2676	2610	1916
45°	2352	2303	2105	1930	1853	1812
55°	1634	1584	1436	1266	1201	1465
65°	970	916	828	844	702	956
75°	389	362	340	324	356	417
85°	55	60	66	71	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4742.4	4742.4	4742.4	4742.4	4742.4
2.5°	4709.5	4709.5	4709.5	4704.0	4704.0
5°	4660.2	4654.7	4654.7	4649.2	4649.2
7.5°	4621.8	4616.3	4610.8	4605.3	4594.4
10°	4566.9	4566.9	4561.5	4534.1	4528.6
12.5°	4479.2	4473.7	4451.8	4413.4	4402.5
15°	4358.6	4358.6	4314.8	4270.9	4254.4
17.5°	4227.0	4221.5	4166.7	4122.9	4100.9
20°	4084.5	4073.5	4018.7	3947.4	3909.0
22.5°	3925.5	3925.5	3859.7	3766.5	3728.1
25°	3777.5	3755.5	3695.2	3563.6	3465.0
27.5°	3607.5	3574.6	3508.8	3322.4	3207.3
30°	3421.1	3404.7	3311.4	3070.2	2982.5
32.5°	3245.7	3218.2	3119.6	2867.4	2796.1
35°	3064.7	3042.8	2894.8	2675.5	2609.7
37.5°	2883.8	2856.4	2670.0	2494.6	2412.3
40°	2702.9	2670.0	2467.1	2308.1	2220.4
42.5°	2532.9	2489.1	2291.7	2121.7	2023.1
45°	2352.0	2302.7	2105.3	1929.9	1853.1
47.5°	2171.1	2127.2	1946.3	1765.4	1677.7
50°	1979.2	1940.8	1776.3	1595.4	1502.2
52.5°	1820.2	1759.9	1600.9	1420.0	1343.2
55°	1633.8	1584.5	1436.4	1266.5	1200.7
57.5°	1463.8	1414.5	1277.4	1118.4	1063.6
60°	1304.8	1233.6	1118.4	981.4	937.5
62.5°	1129.4	1074.6	975.9	860.8	915.6
65°	970.4	915.6	827.9	844.3	701.8
67.5°	795.0	767.6	690.8	614.0	592.1
70°	646.9	614.0	586.6	504.4	482.5
72.5°	515.4	482.5	444.1	400.2	383.8
75°	389.3	361.8	339.9	323.5	356.4
77.5°	268.6	257.7	241.2	224.8	219.3
80°	175.4	170.0	164.5	159.0	153.5
82.5°	104.2	104.2	104.2	104.2	104.2
85°	54.8	60.3	65.8	71.3	76.8
87.5°	32.9	32.9	38.4	43.9	49.3
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)