

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: P547378

Luminaire Tested: **FMR-24-4-LD4-4LO-35-UNV-93-87-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: P547378
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-LD4-4LO-35-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

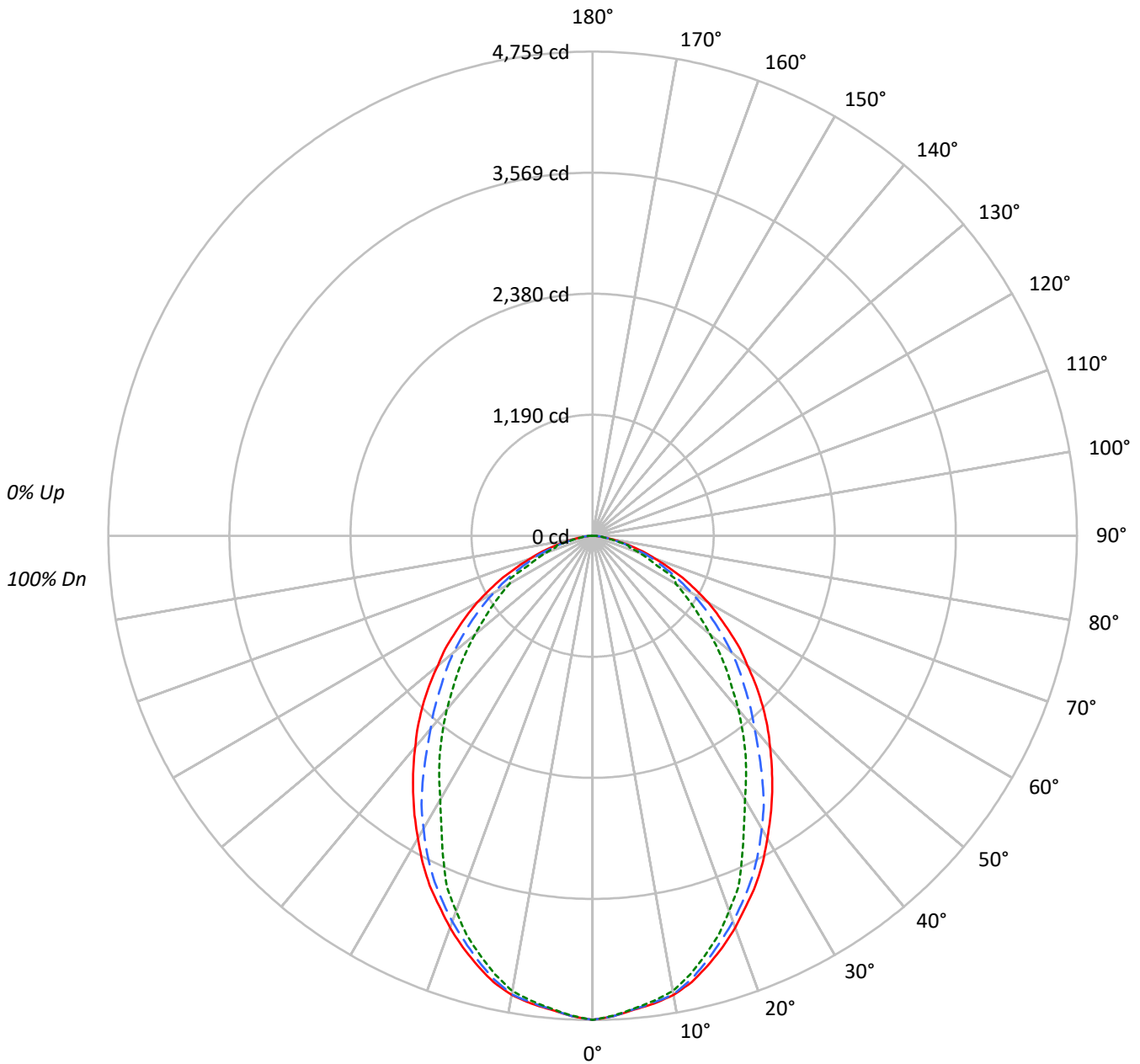
Lumens per Lamp: N/A
Luminaire Lumens: 9342.0 lumens
Efficiency: N/A
Efficacy: 99.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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°	6403	6403	6403
5°	6316	6308	6301
10°	6261	6253	6208
15°	6092	6031	5947
20°	5868	5774	5616
25°	5627	5505	5162
30°	5333	5162	4650
35°	5051	4771	4301
40°	4764	4348	3913
45°	4491	4020	3538
50°	4157	3731	3155
55°	3846	3381	2826
60°	3523	3020	2531
65°	3100	2645	2242
70°	2554	2316	1904
75°	2031	1773	1859
80°	1364	1278	1193
85°	849	1019	1189



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	443.0	4.7
10°-20°	1215.7	13.0
20°-30°	1683.0	18.0
30°-40°	1794.6	19.2
40°-50°	1637.2	17.5
50°-60°	1282.6	13.7
60°-70°	835.9	8.9
70°-80°	370.4	4.0
80°-90°	79.5	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°	3341.7	35.8
0°-40°	5136.3	55.0
0°-60°	8056.2	86.2
0°-90°	9342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9342.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4759	4759	4759	4759	4759	
5°	4676	4671	4671	4665	4665	444
15°	4374	4374	4330	4286	4269	1230
25°	3790	3768	3708	3576	3477	1740
35°	3075	3053	2905	2685	2619	1923
45°	2360	2311	2112	1936	1860	1818
55°	1639	1590	1441	1271	1205	1470
65°	974	919	831	847	704	960
75°	391	363	341	325	358	419
85°	55	60	66	72	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4758.7	4758.7	4758.7	4758.7	4758.7
2.5°	4725.7	4725.7	4725.7	4720.2	4720.2
5°	4676.2	4670.7	4670.7	4665.2	4665.2
7.5°	4637.7	4632.2	4626.7	4621.2	4610.2
10°	4582.6	4582.6	4577.1	4549.6	4544.1
12.5°	4494.6	4489.1	4467.1	4428.6	4417.6
15°	4373.6	4373.6	4329.6	4285.6	4269.1
17.5°	4241.6	4236.1	4181.0	4137.0	4115.0
20°	4098.5	4087.5	4032.5	3961.0	3922.5
22.5°	3939.0	3939.0	3873.0	3779.4	3740.9
25°	3790.4	3768.4	3707.9	3575.9	3476.9
27.5°	3619.9	3586.9	3520.9	3333.8	3218.3
30°	3432.9	3416.4	3322.8	3080.8	2992.7
32.5°	3256.8	3229.3	3130.3	2877.2	2805.7
35°	3075.3	3053.3	2904.7	2684.7	2618.7
37.5°	2893.7	2866.2	2679.2	2503.1	2420.6
40°	2712.2	2679.2	2475.6	2316.1	2228.1
42.5°	2541.6	2497.6	2299.6	2129.0	2030.0
45°	2360.1	2310.6	2112.5	1936.5	1859.5
47.5°	2178.5	2134.5	1953.0	1771.4	1683.4
50°	1986.0	1947.5	1782.4	1600.9	1507.4
52.5°	1826.5	1765.9	1606.4	1424.9	1347.8
55°	1639.4	1589.9	1441.4	1270.8	1204.8
57.5°	1468.9	1419.4	1281.8	1122.3	1067.3
60°	1309.3	1237.8	1122.3	984.7	940.7
62.5°	1133.3	1078.3	979.2	863.7	918.7
65°	973.7	918.7	830.7	847.2	704.2
67.5°	797.7	770.2	693.2	616.2	594.1
70°	649.2	616.2	588.6	506.1	484.1
72.5°	517.1	484.1	445.6	401.6	385.1
75°	390.6	363.1	341.1	324.6	357.6
77.5°	269.6	258.6	242.1	225.6	220.1
80°	176.0	170.5	165.0	159.5	154.0
82.5°	104.5	104.5	104.5	104.5	104.5
85°	55.0	60.5	66.0	71.5	77.0
87.5°	33.0	33.0	38.5	44.0	49.5
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)