

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: P547400

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-82-85-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: P547400
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-40-UNV-82-85-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

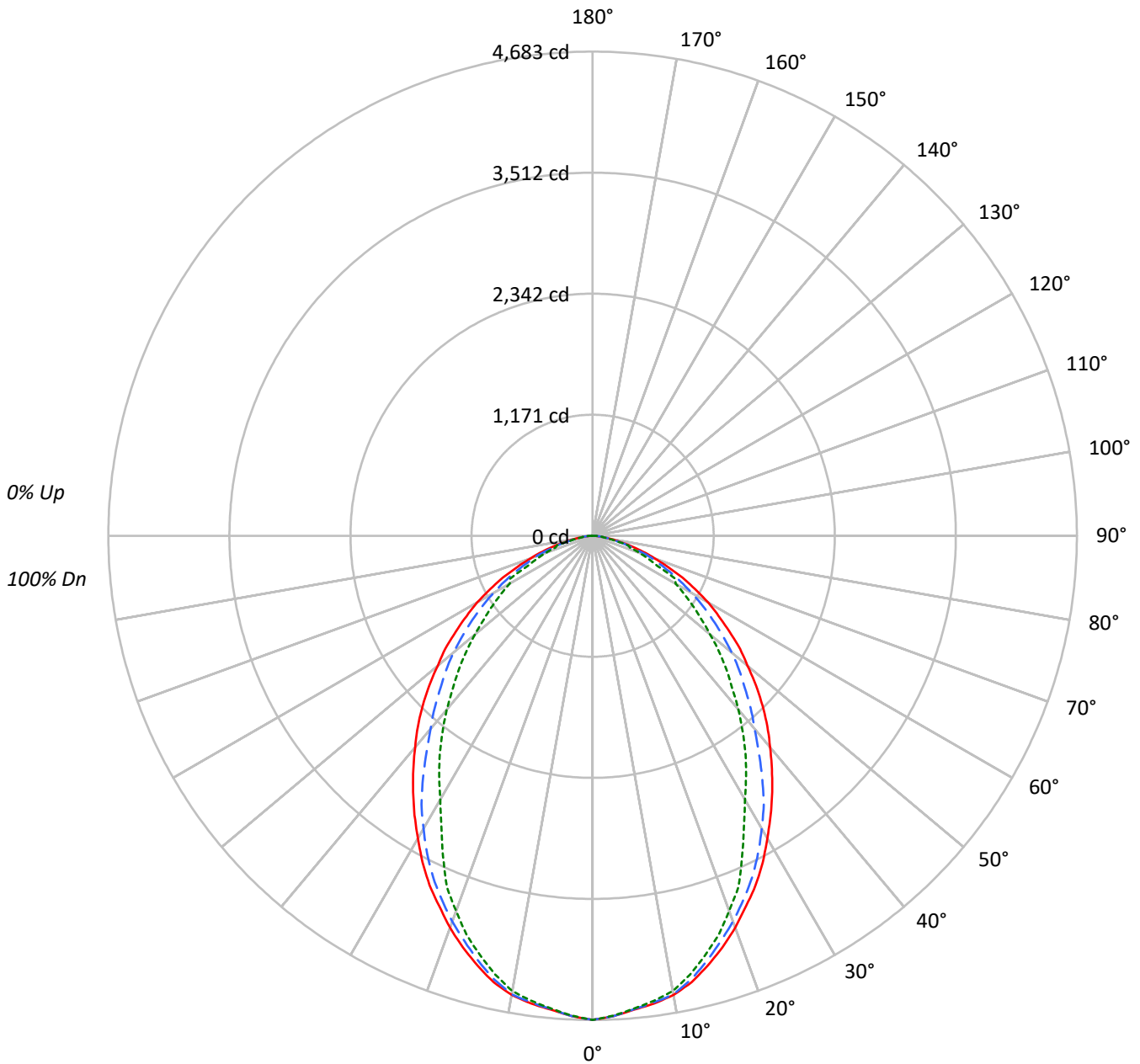
Lumens per Lamp: N/A
Luminaire Lumens: 9193.0 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
Input Voltage (V): NR
Input Current (A_{in}): 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°	6301	6301	6301
5°	6215	6208	6200
10°	6161	6154	6109
15°	5995	5935	5852
20°	5775	5682	5527
25°	5537	5417	5079
30°	5248	5080	4575
35°	4971	4695	4233
40°	4688	4279	3851
45°	4419	3956	3482
50°	4091	3671	3105
55°	3784	3327	2781
60°	3467	2972	2491
65°	3051	2603	2206
70°	2513	2279	1874
75°	1998	1745	1829
80°	1342	1258	1175
85°	835	1003	1170



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	435.9	4.7
10°-20°	1196.3	13.0
20°-30°	1656.2	18.0
30°-40°	1766.0	19.2
40°-50°	1611.1	17.5
50°-60°	1262.2	13.7
60°-70°	822.6	8.9
70°-80°	364.5	4.0
80°-90°	78.3	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°	3288.4	35.8
0°-40°	5054.4	55.0
0°-60°	7927.7	86.2
0°-90°	9193.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9193.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4683	4683	4683	4683	4683	
5°	4602	4596	4596	4591	4591	437
15°	4304	4304	4260	4217	4201	1210
25°	3730	3708	3649	3519	3421	1712
35°	3026	3005	2858	2642	2577	1892
45°	2322	2274	2079	1906	1830	1789
55°	1613	1564	1418	1250	1186	1447
65°	958	904	818	834	693	944
75°	384	357	336	319	352	412
85°	54	60	65	70	76	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4682.8	4682.8	4682.8	4682.8	4682.8
2.5°	4650.3	4650.3	4650.3	4644.9	4644.9
5°	4601.6	4596.2	4596.2	4590.8	4590.8
7.5°	4563.7	4558.3	4552.9	4547.5	4536.6
10°	4509.6	4509.6	4504.1	4477.1	4471.7
12.5°	4422.9	4417.5	4395.9	4358.0	4347.1
15°	4303.8	4303.8	4260.5	4217.2	4201.0
17.5°	4173.9	4168.5	4114.4	4071.1	4049.4
20°	4033.2	4022.3	3968.2	3897.8	3859.9
22.5°	3876.2	3876.2	3811.2	3719.2	3681.3
25°	3730.0	3708.3	3648.8	3518.9	3421.4
27.5°	3562.2	3529.7	3464.7	3280.7	3167.0
30°	3378.1	3361.9	3269.8	3031.6	2945.0
32.5°	3204.9	3177.8	3080.4	2831.3	2761.0
35°	3026.2	3004.6	2858.4	2641.9	2576.9
37.5°	2847.6	2820.5	2636.4	2463.2	2382.0
40°	2668.9	2636.4	2436.1	2279.1	2192.5
42.5°	2501.1	2457.8	2262.9	2095.1	1997.6
45°	2322.4	2273.7	2078.8	1905.6	1829.8
47.5°	2143.8	2100.5	1921.8	1743.2	1656.6
50°	1954.3	1916.4	1754.0	1575.4	1483.3
52.5°	1797.3	1737.8	1580.8	1402.1	1326.3
55°	1613.3	1564.5	1418.4	1250.5	1185.6
57.5°	1445.4	1396.7	1261.4	1104.4	1050.2
60°	1288.4	1218.1	1104.4	969.0	925.7
62.5°	1115.2	1061.1	963.6	849.9	904.1
65°	958.2	904.1	817.5	833.7	692.9
67.5°	785.0	757.9	682.1	606.3	584.7
70°	638.8	606.3	579.3	498.1	476.4
72.5°	508.9	476.4	438.5	395.2	379.0
75°	384.4	357.3	335.6	319.4	351.9
77.5°	265.3	254.4	238.2	222.0	216.5
80°	173.2	167.8	162.4	157.0	151.6
82.5°	102.9	102.9	102.9	102.9	102.9
85°	54.1	59.5	65.0	70.4	75.8
87.5°	32.5	32.5	37.9	43.3	48.7
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)