

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: P547405

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-82-96-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: P547405
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-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

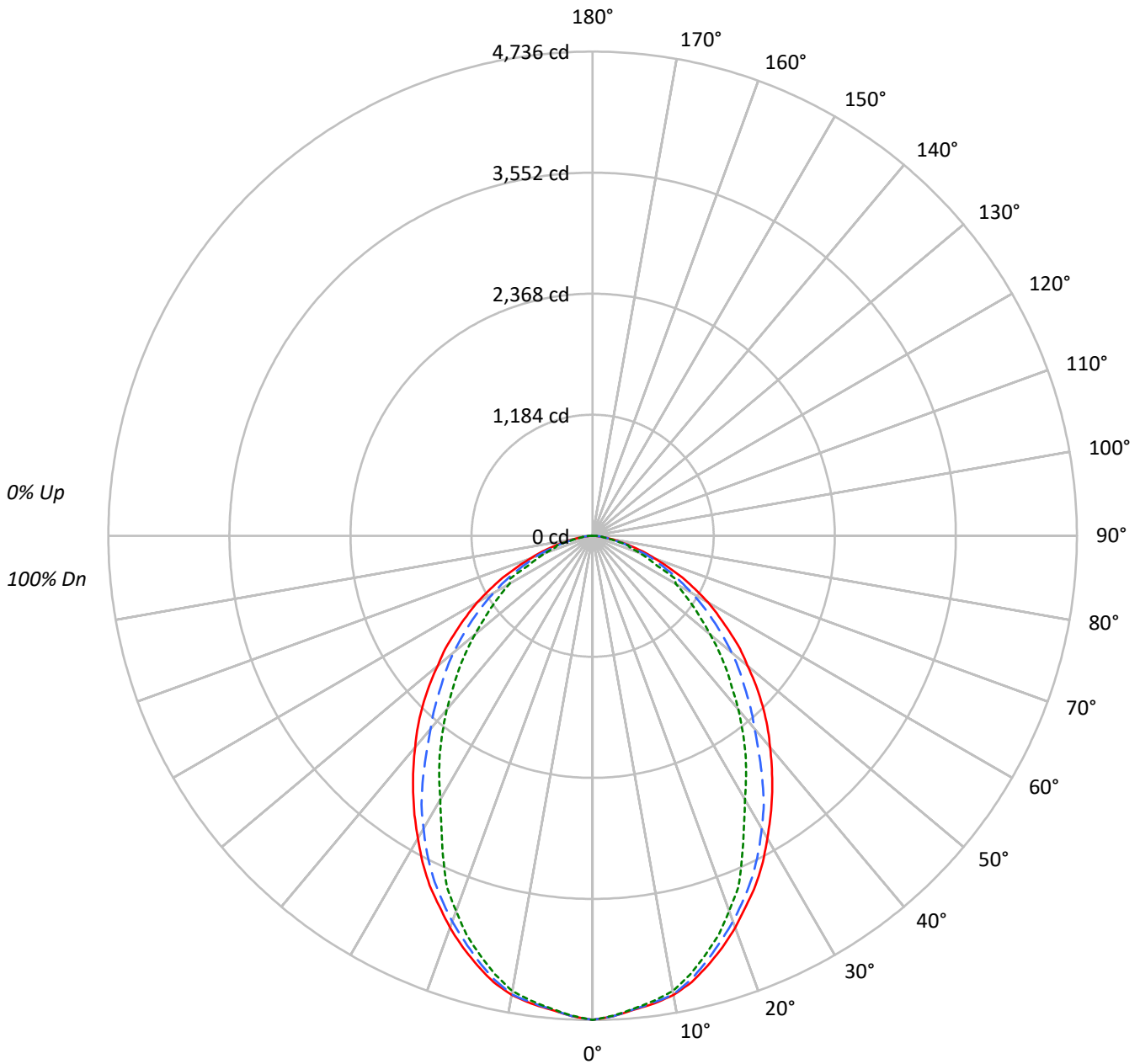
Lumens per Lamp: N/A
Luminaire Lumens: 9297.0 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	6372	6372	6372
5°	6285	6278	6271
10°	6231	6223	6178
15°	6063	6002	5918
20°	5840	5746	5589
25°	5600	5478	5137
30°	5308	5138	4627
35°	5027	4748	4280
40°	4741	4327	3894
45°	4469	4000	3521
50°	4137	3713	3140
55°	3827	3365	2813
60°	3506	3006	2519
65°	3085	2632	2231
70°	2541	2305	1895
75°	2021	1764	1850
80°	1358	1272	1188
85°	844	1014	1183



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	440.8	4.7
10°-20°	1209.8	13.0
20°-30°	1674.9	18.0
30°-40°	1786.0	19.2
40°-50°	1629.3	17.5
50°-60°	1276.4	13.7
60°-70°	831.9	8.9
70°-80°	368.6	4.0
80°-90°	79.1	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°	3325.6	35.8
0°-40°	5111.6	55.0
0°-60°	8017.4	86.2
0°-90°	9297.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9297.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4736	4736	4736	4736	4736	
5°	4654	4648	4648	4643	4643	442
15°	4352	4352	4309	4265	4248	1224
25°	3772	3750	3690	3559	3460	1732
35°	3060	3039	2891	2672	2606	1913
45°	2349	2299	2102	1927	1850	1809
55°	1632	1582	1434	1265	1199	1463
65°	969	914	827	843	701	955
75°	389	361	339	323	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°	4735.8	4735.8	4735.8	4735.8	4735.8
2.5°	4702.9	4702.9	4702.9	4697.4	4697.4
5°	4653.6	4648.2	4648.2	4642.7	4642.7
7.5°	4615.3	4609.8	4604.4	4598.9	4587.9
10°	4560.6	4560.6	4555.1	4527.7	4522.2
12.5°	4473.0	4467.5	4445.6	4407.3	4396.3
15°	4352.5	4352.5	4308.7	4264.9	4248.5
17.5°	4221.1	4215.7	4160.9	4117.1	4095.2
20°	4078.8	4067.8	4013.1	3941.9	3903.6
22.5°	3920.0	3920.0	3854.3	3761.2	3722.9
25°	3772.2	3750.3	3690.1	3558.7	3460.1
27.5°	3602.5	3569.6	3503.9	3317.8	3202.8
30°	3416.3	3399.9	3306.8	3065.9	2978.3
32.5°	3241.1	3213.8	3115.2	2863.4	2792.2
35°	3060.5	3038.6	2890.7	2671.7	2606.0
37.5°	2879.8	2852.4	2666.3	2491.1	2408.9
40°	2699.1	2666.3	2463.7	2304.9	2217.3
42.5°	2529.4	2485.6	2288.5	2118.8	2020.2
45°	2348.7	2299.4	2102.4	1927.2	1850.5
47.5°	2168.1	2124.3	1943.6	1762.9	1675.3
50°	1976.4	1938.1	1773.9	1593.2	1500.1
52.5°	1817.7	1757.4	1598.7	1418.0	1341.3
55°	1631.5	1582.2	1434.4	1264.7	1199.0
57.5°	1461.8	1412.5	1275.6	1116.9	1062.1
60°	1303.0	1231.8	1116.9	980.0	936.2
62.5°	1127.8	1073.1	974.5	859.6	914.3
65°	969.1	914.3	826.7	843.1	700.8
67.5°	793.9	766.5	689.8	613.2	591.3
70°	646.0	613.2	585.8	503.7	481.8
72.5°	514.6	481.8	443.5	399.7	383.2
75°	388.7	361.3	339.4	323.0	355.9
77.5°	268.3	257.3	240.9	224.5	219.0
80°	175.2	169.7	164.2	158.8	153.3
82.5°	104.0	104.0	104.0	104.0	104.0
85°	54.7	60.2	65.7	71.2	76.6
87.5°	32.8	32.8	38.3	43.8	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)