

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: P546697

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-82-86-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: P546697
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-LD4-2HI-35-UNV-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

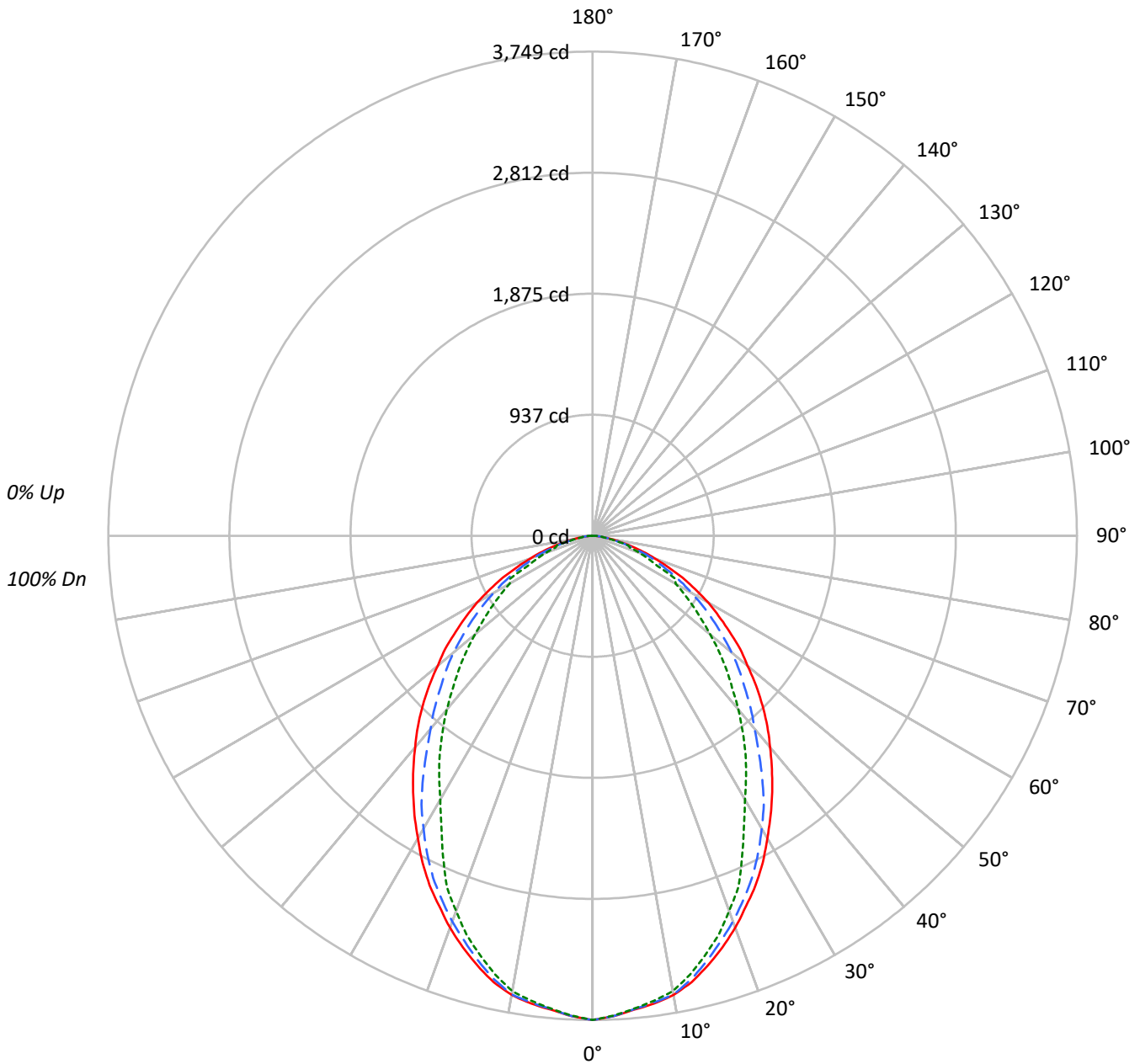
Lumens per Lamp: N/A
Luminaire Lumens: 7360.0 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	5044	5044	5044
5°	4976	4970	4964
10°	4933	4927	4891
15°	4800	4751	4685
20°	4623	4549	4425
25°	4433	4337	4067
30°	4202	4067	3663
35°	3980	3759	3389
40°	3753	3426	3083
45°	3538	3167	2788
50°	3275	2939	2486
55°	3030	2664	2227
60°	2776	2379	1994
65°	2443	2084	1766
70°	2012	1825	1500
75°	1600	1397	1464
80°	1075	1007	941
85°	668	803	937



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.0	4.7
10°-20°	957.8	13.0
20°-30°	1326.0	18.0
30°-40°	1413.9	19.2
40°-50°	1289.9	17.5
50°-60°	1010.5	13.7
60°-70°	658.6	8.9
70°-80°	291.8	4.0
80°-90°	62.6	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°	2632.7	35.8
0°-40°	4046.6	55.0
0°-60°	6347.0	86.2
0°-90°	7360.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7360.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3749	3749	3749	3749	3749	
5°	3684	3680	3680	3675	3675	350
15°	3446	3446	3411	3376	3363	969
25°	2986	2969	2921	2817	2739	1371
35°	2423	2406	2288	2115	2063	1515
45°	1859	1820	1664	1526	1465	1432
55°	1292	1253	1136	1001	949	1158
65°	767	724	654	668	555	756
75°	308	286	269	256	282	330
85°	43	48	52	56	61	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3749.1	3749.1	3749.1	3749.1	3749.1
2.5°	3723.1	3723.1	3723.1	3718.7	3718.7
5°	3684.1	3679.7	3679.7	3675.4	3675.4
7.5°	3653.7	3649.4	3645.1	3640.7	3632.1
10°	3610.4	3610.4	3606.1	3584.4	3580.1
12.5°	3541.0	3536.7	3519.4	3489.0	3480.4
15°	3445.7	3445.7	3411.0	3376.3	3363.3
17.5°	3341.7	3337.3	3294.0	3259.3	3242.0
20°	3229.0	3220.3	3177.0	3120.6	3090.3
22.5°	3103.3	3103.3	3051.3	2977.6	2947.3
25°	2986.3	2968.9	2921.3	2817.2	2739.2
27.5°	2851.9	2825.9	2773.9	2626.5	2535.5
30°	2704.5	2691.5	2617.9	2427.2	2357.8
32.5°	2565.8	2544.2	2466.2	2266.8	2210.4
35°	2422.8	2405.5	2288.5	2115.1	2063.1
37.5°	2279.8	2258.1	2110.8	1972.1	1907.0
40°	2136.8	2110.8	1950.4	1824.7	1755.4
42.5°	2002.4	1967.7	1811.7	1677.3	1599.3
45°	1859.4	1820.4	1664.3	1525.6	1465.0
47.5°	1716.3	1681.7	1538.6	1395.6	1326.3
50°	1564.6	1534.3	1404.3	1261.3	1187.6
52.5°	1439.0	1391.3	1265.6	1122.6	1061.9
55°	1291.6	1252.6	1135.6	1001.2	949.2
57.5°	1157.2	1118.2	1009.9	884.2	840.8
60°	1031.5	975.2	884.2	775.8	741.1
62.5°	892.8	849.5	771.5	680.5	723.8
65°	767.2	723.8	654.5	667.5	554.8
67.5°	628.5	606.8	546.1	485.4	468.1
70°	511.4	485.4	463.8	398.7	381.4
72.5°	407.4	381.4	351.1	316.4	303.4
75°	307.7	286.1	268.7	255.7	281.7
77.5°	212.4	203.7	190.7	177.7	173.4
80°	138.7	134.4	130.0	125.7	121.4
82.5°	82.3	82.3	82.3	82.3	82.3
85°	43.3	47.7	52.0	56.3	60.7
87.5°	26.0	26.0	30.3	34.7	39.0
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)