

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: P546519

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-80-84-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: P546519
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-LD4-1LO-40-UNV-80-84-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

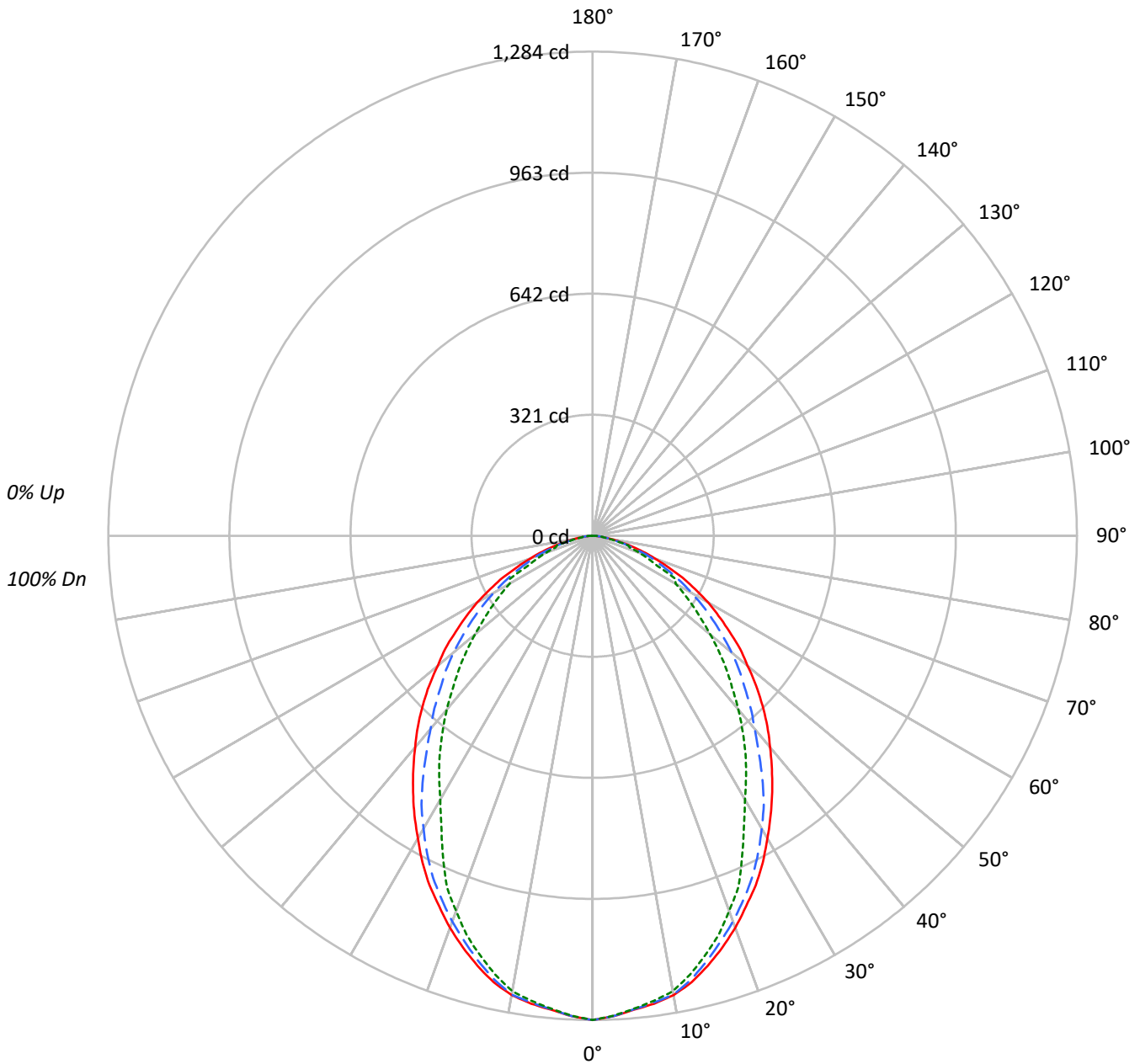
Lumens per Lamp: N/A
Luminaire Lumens: 2521.0 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	1728	1728	1728
5°	1704	1702	1700
10°	1690	1688	1675
15°	1644	1628	1605
20°	1584	1558	1516
25°	1519	1485	1393
30°	1439	1393	1255
35°	1363	1288	1161
40°	1286	1173	1056
45°	1212	1085	955
50°	1122	1007	852
55°	1038	913	763
60°	951	815	683
65°	837	714	605
70°	689	625	514
75°	548	478	502
80°	368	345	322
85°	228	275	321



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.5	4.7
10°-20°	328.1	13.0
20°-30°	454.2	18.0
30°-40°	484.3	19.2
40°-50°	441.8	17.5
50°-60°	346.1	13.7
60°-70°	225.6	8.9
70°-80°	100.0	4.0
80°-90°	21.5	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°	901.8	35.8
0°-40°	1386.1	55.0
0°-60°	2174.0	86.2
0°-90°	2521.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2521.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1284	1284	1284	1284	1284	
5°	1262	1260	1260	1259	1259	120
15°	1180	1180	1168	1156	1152	332
25°	1023	1017	1001	965	938	470
35°	830	824	784	724	707	519
45°	637	624	570	523	502	491
55°	442	429	389	343	325	397
65°	263	248	224	229	190	259
75°	105	98	92	88	96	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1284.2	1284.2	1284.2	1284.2	1284.2
2.5°	1275.3	1275.3	1275.3	1273.8	1273.8
5°	1261.9	1260.4	1260.4	1258.9	1258.9
7.5°	1251.5	1250.0	1248.5	1247.0	1244.1
10°	1236.7	1236.7	1235.2	1227.7	1226.3
12.5°	1212.9	1211.4	1205.5	1195.1	1192.1
15°	1180.2	1180.2	1168.4	1156.5	1152.0
17.5°	1144.6	1143.1	1128.3	1116.4	1110.5
20°	1106.0	1103.0	1088.2	1068.9	1058.5
22.5°	1063.0	1063.0	1045.1	1019.9	1009.5
25°	1022.9	1016.9	1000.6	965.0	938.3
27.5°	976.9	967.9	950.1	899.7	868.5
30°	926.4	921.9	896.7	831.4	807.6
32.5°	878.9	871.4	844.7	776.4	757.1
35°	829.9	823.9	783.9	724.5	706.7
37.5°	780.9	773.5	723.0	675.5	653.2
40°	731.9	723.0	668.1	625.0	601.3
42.5°	685.9	674.0	620.6	574.5	547.8
45°	636.9	623.5	570.1	522.6	501.8
47.5°	587.9	576.0	527.0	478.0	454.3
50°	535.9	525.5	481.0	432.0	406.8
52.5°	492.9	476.6	433.5	384.5	363.7
55°	442.4	429.0	389.0	342.9	325.1
57.5°	396.4	383.0	345.9	302.9	288.0
60°	353.3	334.0	302.9	265.7	253.9
62.5°	305.8	291.0	264.3	233.1	247.9
65°	262.8	247.9	224.2	228.6	190.0
67.5°	215.3	207.8	187.1	166.3	160.3
70°	175.2	166.3	158.9	136.6	130.6
72.5°	139.6	130.6	120.3	108.4	103.9
75°	105.4	98.0	92.0	87.6	96.5
77.5°	72.7	69.8	65.3	60.9	59.4
80°	47.5	46.0	44.5	43.1	41.6
82.5°	28.2	28.2	28.2	28.2	28.2
85°	14.8	16.3	17.8	19.3	20.8
87.5°	8.9	8.9	10.4	11.9	13.4
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)