

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: P546543

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-93-84-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: P546543
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-93-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

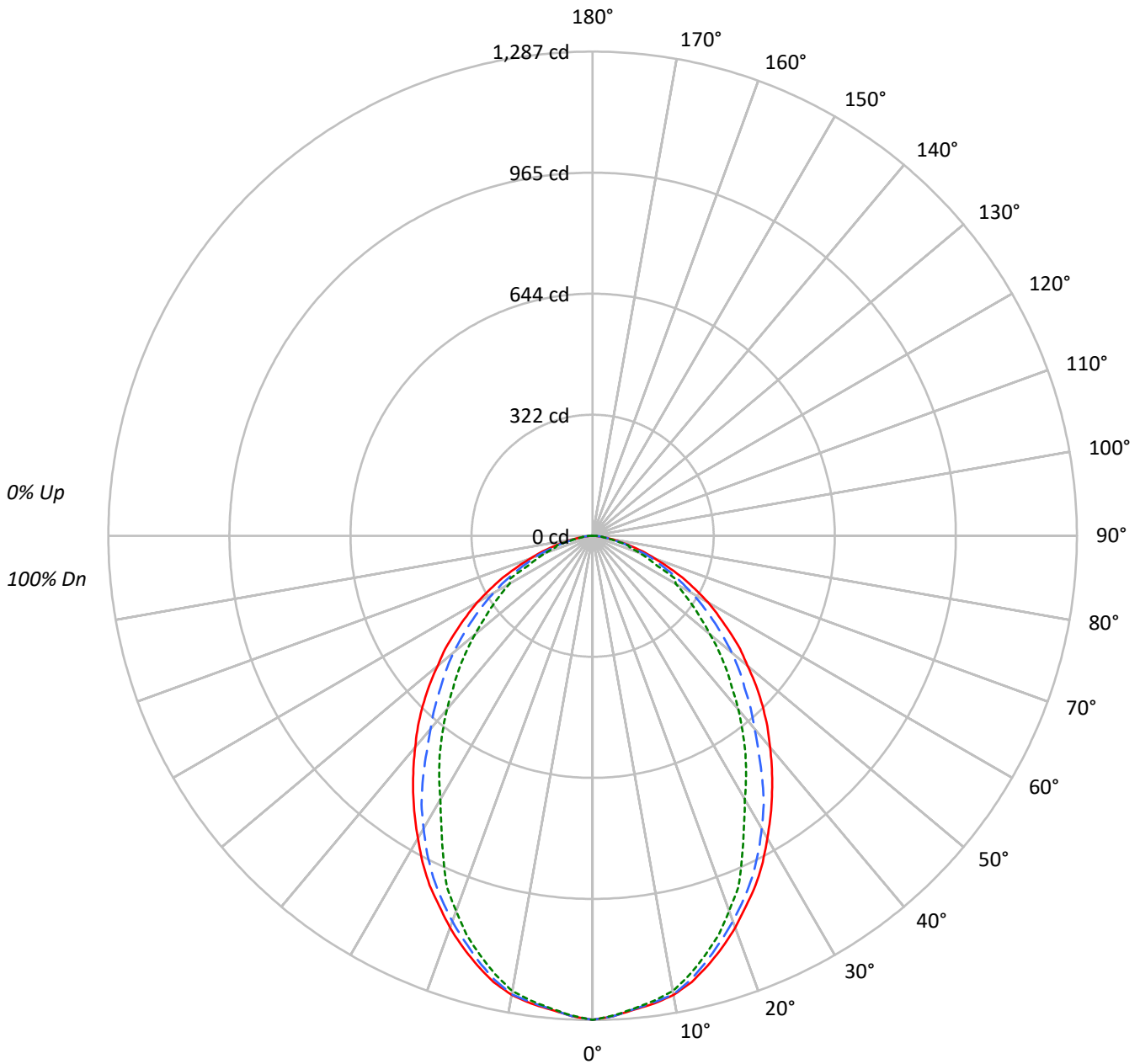
Lumens per Lamp: N/A
Luminaire Lumens: 2526.0 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	1731	1731	1731
5°	1708	1706	1704
10°	1693	1691	1679
15°	1647	1631	1608
20°	1587	1561	1519
25°	1522	1488	1396
30°	1442	1396	1257
35°	1366	1290	1163
40°	1288	1176	1058
45°	1214	1087	957
50°	1124	1009	853
55°	1040	914	764
60°	953	817	685
65°	838	715	606
70°	690	626	515
75°	549	479	503
80°	369	346	323
85°	230	276	321



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	4.7
10°-20°	328.7	13.0
20°-30°	455.1	18.0
30°-40°	485.2	19.2
40°-50°	442.7	17.5
50°-60°	346.8	13.7
60°-70°	226.0	8.9
70°-80°	100.1	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°	903.6	35.8
0°-40°	1388.8	55.0
0°-60°	2178.3	86.2
0°-90°	2526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2526.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1264	1263	1263	1261	1261	120
15°	1183	1183	1171	1159	1154	332
25°	1025	1019	1003	967	940	471
35°	832	826	785	726	708	520
45°	638	625	571	524	503	492
55°	443	430	390	344	326	398
65°	263	248	225	229	190	259
75°	106	98	92	88	97	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°	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1277.8	1277.8	1277.8	1276.3	1276.3
5°	1264.4	1262.9	1262.9	1261.4	1261.4
7.5°	1254.0	1252.5	1251.0	1249.5	1246.5
10°	1239.1	1239.1	1237.6	1230.2	1228.7
12.5°	1215.3	1213.8	1207.9	1197.5	1194.5
15°	1182.6	1182.6	1170.7	1158.8	1154.3
17.5°	1146.9	1145.4	1130.5	1118.6	1112.7
20°	1108.2	1105.2	1090.4	1071.0	1060.6
22.5°	1065.1	1065.1	1047.2	1021.9	1011.5
25°	1024.9	1019.0	1002.6	966.9	940.1
27.5°	978.8	969.9	952.0	901.4	870.2
30°	928.2	923.8	898.5	833.0	809.2
32.5°	880.6	873.2	846.4	778.0	758.6
35°	831.5	825.6	785.4	725.9	708.1
37.5°	782.4	775.0	724.4	676.8	654.5
40°	733.4	724.4	669.4	626.2	602.4
42.5°	687.2	675.3	621.8	575.7	548.9
45°	638.1	624.8	571.2	523.6	502.8
47.5°	589.1	577.2	528.1	479.0	455.2
50°	537.0	526.6	482.0	432.9	407.6
52.5°	493.9	477.5	434.4	385.3	364.4
55°	443.3	429.9	389.7	343.6	325.8
57.5°	397.2	383.8	346.6	303.5	288.6
60°	354.0	334.7	303.5	266.3	254.4
62.5°	306.4	291.6	264.8	233.5	248.4
65°	263.3	248.4	224.6	229.1	190.4
67.5°	215.7	208.3	187.4	166.6	160.7
70°	175.5	166.6	159.2	136.9	130.9
72.5°	139.8	130.9	120.5	108.6	104.1
75°	105.6	98.2	92.2	87.8	96.7
77.5°	72.9	69.9	65.5	61.0	59.5
80°	47.6	46.1	44.6	43.1	41.7
82.5°	28.3	28.3	28.3	28.3	28.3
85°	14.9	16.4	17.9	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)