

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: P546611

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-93-88-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: P546611
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-LD4-1STD-35-UNV-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

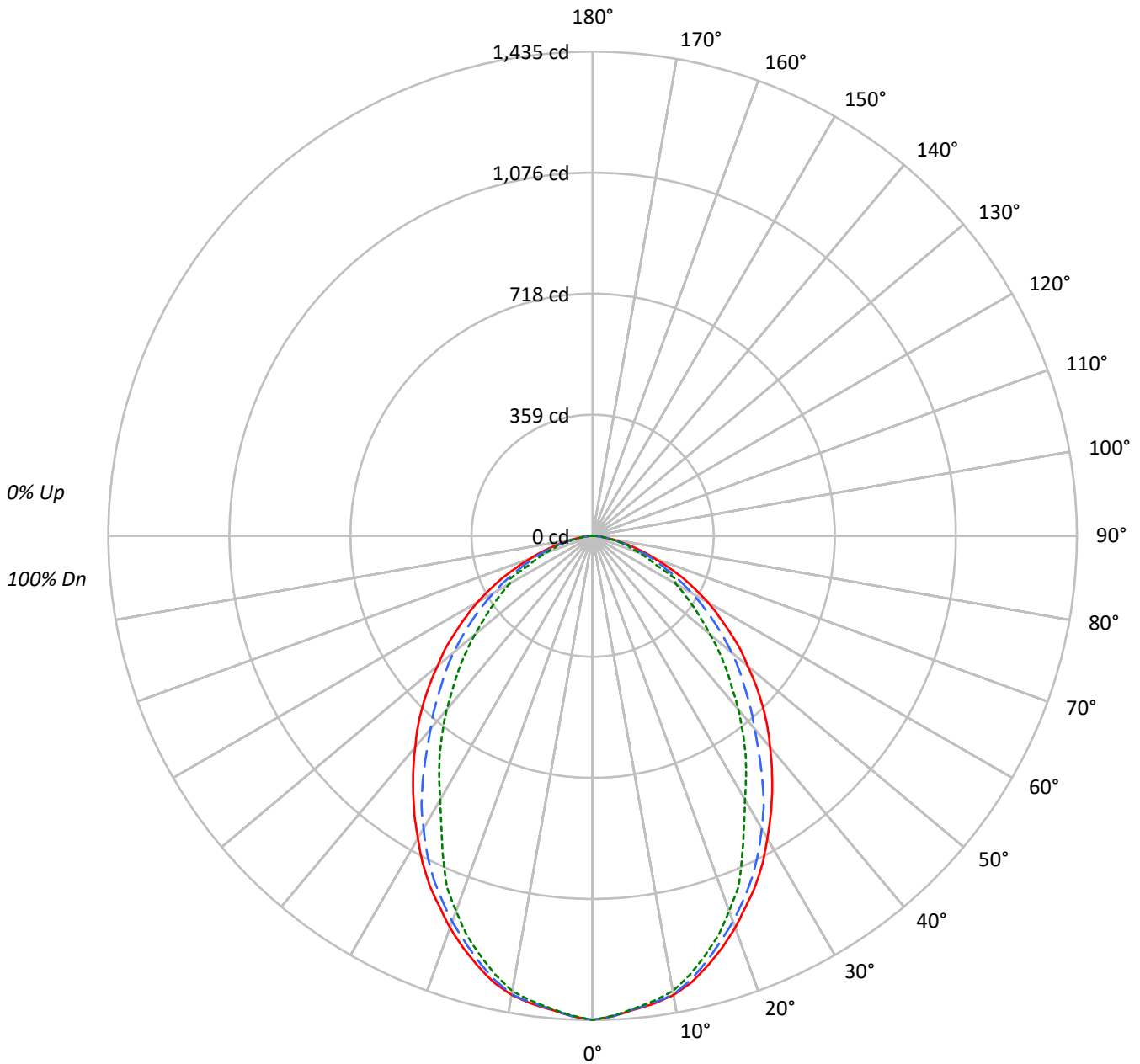
Lumens per Lamp: N/A
Luminaire Lumens: 2817.0 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	1931	1931	1931
5°	1905	1902	1900
10°	1888	1886	1872
15°	1837	1819	1793
20°	1770	1741	1694
25°	1697	1660	1556
30°	1608	1557	1402
35°	1523	1439	1297
40°	1436	1311	1180
45°	1354	1212	1067
50°	1254	1125	951
55°	1160	1019	852
60°	1062	911	763
65°	935	798	676
70°	770	698	574
75°	612	535	560
80°	411	386	360
85°	256	307	358



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	4.7
10°-20°	366.6	13.0
20°-30°	507.5	18.0
30°-40°	541.2	19.2
40°-50°	493.7	17.5
50°-60°	386.8	13.7
60°-70°	252.1	8.9
70°-80°	111.7	4.0
80°-90°	24.0	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°	1007.7	35.8
0°-40°	1548.8	55.0
0°-60°	2429.3	86.2
0°-90°	2817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2817.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1435	1435	1435	1435	1435	
5°	1410	1408	1408	1407	1407	134
15°	1319	1319	1306	1292	1287	371
25°	1143	1136	1118	1078	1048	525
35°	927	921	876	810	790	580
45°	712	697	637	584	561	548
55°	494	479	435	383	363	443
65°	294	277	250	256	212	289
75°	118	110	103	98	108	126
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1434.9	1434.9	1434.9	1434.9	1434.9
2.5°	1425.0	1425.0	1425.0	1423.3	1423.3
5°	1410.1	1408.4	1408.4	1406.7	1406.7
7.5°	1398.4	1396.8	1395.1	1393.5	1390.2
10°	1381.9	1381.9	1380.2	1371.9	1370.2
12.5°	1355.3	1353.7	1347.0	1335.4	1332.1
15°	1318.8	1318.8	1305.5	1292.3	1287.3
17.5°	1279.0	1277.3	1260.8	1247.5	1240.9
20°	1235.9	1232.6	1216.0	1194.4	1182.8
22.5°	1187.8	1187.8	1167.9	1139.7	1128.0
25°	1143.0	1136.3	1118.1	1078.3	1048.4
27.5°	1091.6	1081.6	1061.7	1005.3	970.5
30°	1035.1	1030.2	1002.0	929.0	902.4
32.5°	982.1	973.8	943.9	867.6	846.0
35°	927.3	920.7	875.9	809.5	789.6
37.5°	872.6	864.3	807.9	754.8	729.9
40°	817.8	807.9	746.5	698.4	671.9
42.5°	766.4	753.1	693.4	642.0	612.1
45°	711.7	696.7	637.0	583.9	560.7
47.5°	656.9	643.7	588.9	534.2	507.6
50°	598.9	587.2	537.5	482.7	454.5
52.5°	550.8	532.5	484.4	429.7	406.4
55°	494.4	479.4	434.6	383.2	363.3
57.5°	442.9	428.0	386.5	338.4	321.8
60°	394.8	373.3	338.4	296.9	283.7
62.5°	341.7	325.1	295.3	260.4	277.0
65°	293.6	277.0	250.5	255.5	212.3
67.5°	240.5	232.2	209.0	185.8	179.2
70°	195.7	185.8	177.5	152.6	146.0
72.5°	155.9	146.0	134.4	121.1	116.1
75°	117.8	109.5	102.9	97.9	107.8
77.5°	81.3	78.0	73.0	68.0	66.4
80°	53.1	51.4	49.8	48.1	46.4
82.5°	31.5	31.5	31.5	31.5	31.5
85°	16.6	18.2	19.9	21.6	23.2
87.5°	10.0	10.0	11.6	13.3	14.9
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)