

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: P546672

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-93-85-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: P546672
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-50-UNV-93-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

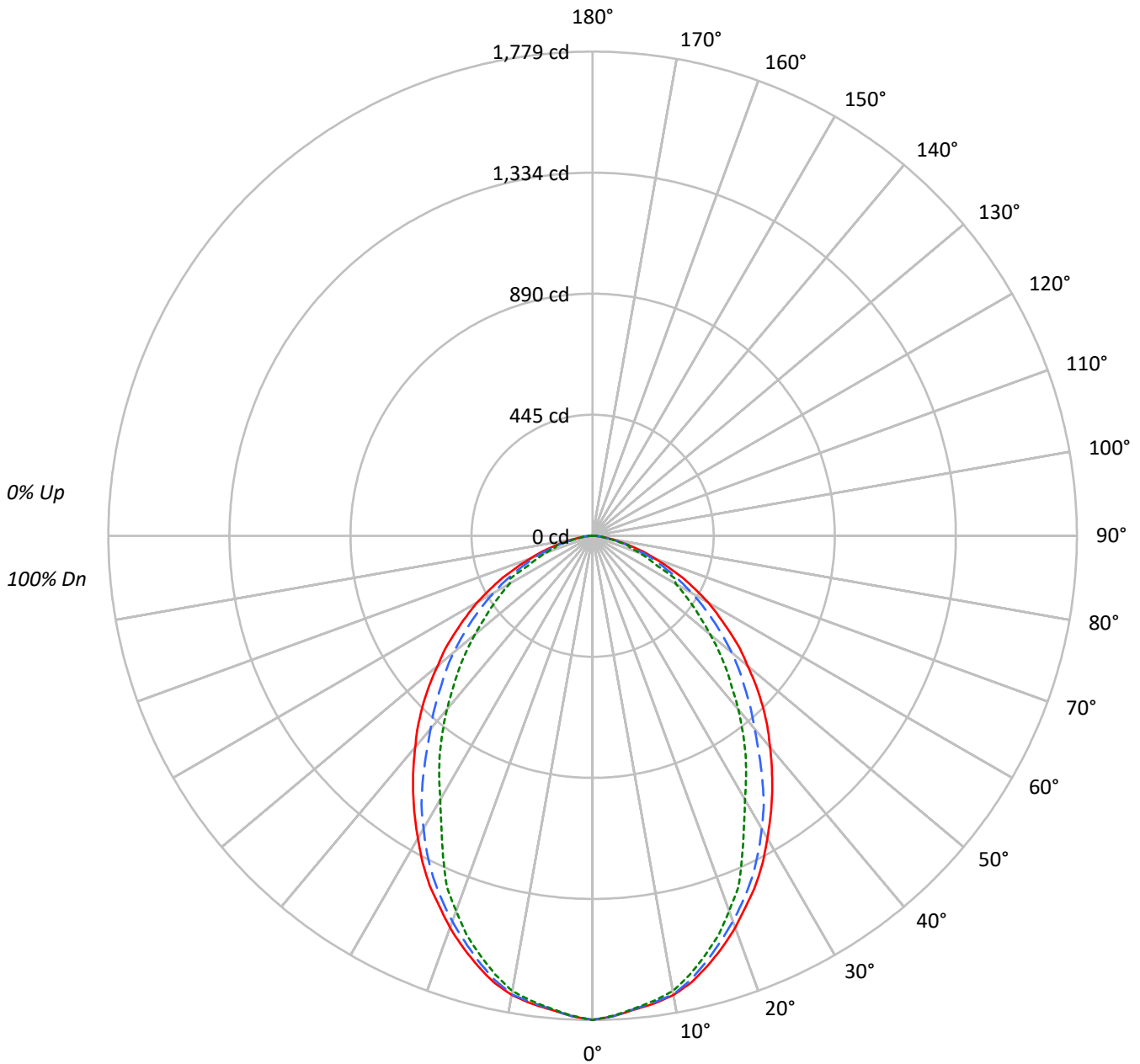
Lumens per Lamp: N/A
Luminaire Lumens: 3492.0 lumens
Efficiency: N/A
Efficacy: 104.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2393	2393	2393
5°	2361	2358	2355
10°	2340	2338	2321
15°	2277	2254	2223
20°	2194	2158	2099
25°	2104	2058	1929
30°	1994	1930	1738
35°	1888	1783	1608
40°	1781	1625	1463
45°	1679	1503	1323
50°	1554	1395	1180
55°	1437	1264	1056
60°	1317	1129	946
65°	1159	989	838
70°	955	865	712
75°	759	663	695
80°	510	478	446
85°	318	381	445



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.6	4.7
10°-20°	454.4	13.0
20°-30°	629.1	18.0
30°-40°	670.8	19.2
40°-50°	612.0	17.5
50°-60°	479.4	13.7
60°-70°	312.5	8.9
70°-80°	138.4	4.0
80°-90°	29.7	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°	1249.1	35.8
0°-40°	1919.9	55.0
0°-60°	3011.4	86.2
0°-90°	3492.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3492.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1779	1779	1779	1779	1779	
5°	1748	1746	1746	1744	1744	166
15°	1635	1635	1618	1602	1596	460
25°	1417	1409	1386	1337	1300	650
35°	1150	1141	1086	1004	979	719
45°	882	864	790	724	695	680
55°	613	594	539	475	450	550
65°	364	343	310	317	263	359
75°	146	136	128	121	134	156
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1778.8	1778.8	1778.8	1778.8	1778.8
2.5°	1766.4	1766.4	1766.4	1764.4	1764.4
5°	1747.9	1745.9	1745.9	1743.8	1743.8
7.5°	1733.5	1731.5	1729.4	1727.4	1723.3
10°	1713.0	1713.0	1710.9	1700.6	1698.6
12.5°	1680.1	1678.0	1669.8	1655.4	1651.3
15°	1634.8	1634.8	1618.4	1601.9	1595.8
17.5°	1585.5	1583.4	1562.9	1546.4	1538.2
20°	1532.0	1527.9	1507.3	1480.6	1466.2
22.5°	1472.4	1472.4	1447.7	1412.7	1398.3
25°	1416.9	1408.6	1386.0	1336.7	1299.6
27.5°	1353.1	1340.8	1316.1	1246.2	1203.0
30°	1283.2	1277.0	1242.1	1151.6	1118.7
32.5°	1217.4	1207.1	1170.1	1075.5	1048.8
35°	1149.5	1141.3	1085.8	1003.5	978.8
37.5°	1081.7	1071.4	1001.5	935.7	904.8
40°	1013.8	1001.5	925.4	865.7	832.8
42.5°	950.1	933.6	859.6	795.8	758.8
45°	882.2	863.7	789.7	723.8	695.1
47.5°	814.3	797.9	730.0	662.2	629.3
50°	742.4	728.0	666.3	598.4	563.5
52.5°	682.7	660.1	600.5	532.6	503.8
55°	612.8	594.3	538.8	475.0	450.3
57.5°	549.1	530.5	479.1	419.5	398.9
60°	489.4	462.7	419.5	368.1	351.6
62.5°	423.6	403.1	366.0	322.9	343.4
65°	364.0	343.4	310.5	316.7	263.2
67.5°	298.2	287.9	259.1	230.3	222.1
70°	242.7	230.3	220.0	189.2	181.0
72.5°	193.3	181.0	166.6	150.1	143.9
75°	146.0	135.7	127.5	121.3	133.7
77.5°	100.8	96.7	90.5	84.3	82.3
80°	65.8	63.7	61.7	59.6	57.6
82.5°	39.1	39.1	39.1	39.1	39.1
85°	20.6	22.6	24.7	26.7	28.8
87.5°	12.3	12.3	14.4	16.5	18.5
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)