

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: P546444

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-82-94-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: P546444
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-LD4-1HI-35-UNV-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

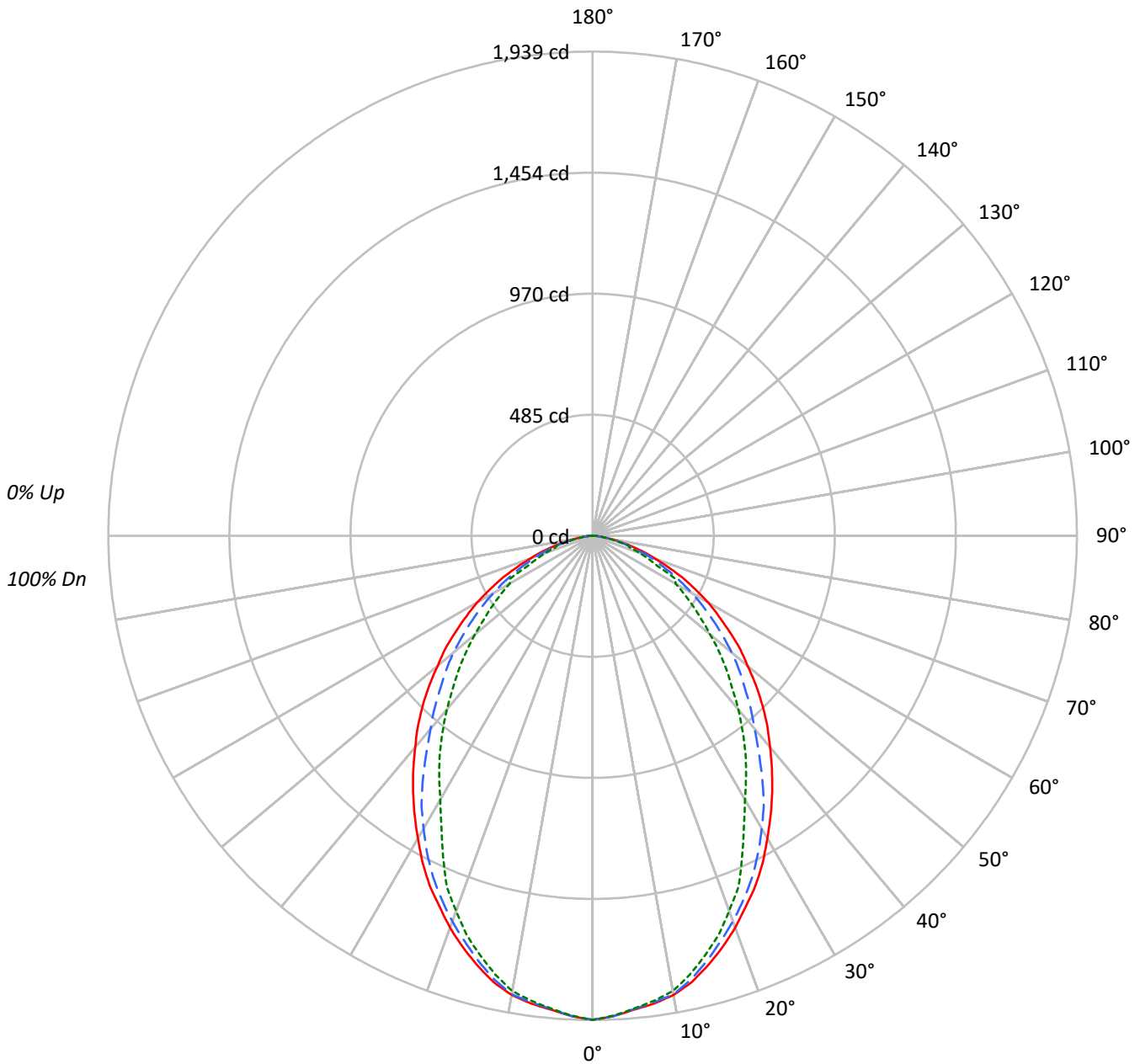
Lumens per Lamp: N/A
Luminaire Lumens: 3806.0 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (A_{in}): 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°	2609	2609	2609
5°	2573	2570	2567
10°	2551	2548	2529
15°	2482	2457	2423
20°	2391	2352	2288
25°	2293	2243	2103
30°	2173	2103	1894
35°	2058	1944	1752
40°	1941	1772	1594
45°	1830	1638	1442
50°	1694	1520	1285
55°	1567	1377	1151
60°	1435	1230	1031
65°	1263	1077	913
70°	1041	943	776
75°	827	723	757
80°	556	521	487
85°	346	415	485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.5	4.7
10°-20°	495.3	13.0
20°-30°	685.7	18.0
30°-40°	731.1	19.2
40°-50°	667.0	17.5
50°-60°	522.5	13.7
60°-70°	340.6	8.9
70°-80°	150.9	4.0
80°-90°	32.4	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°	1361.4	35.8
0°-40°	2092.6	55.0
0°-60°	3282.1	86.2
0°-90°	3806.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3806.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1939	1939	1939	1939	1939	
5°	1905	1903	1903	1901	1901	181
15°	1782	1782	1764	1746	1739	501
25°	1544	1535	1511	1457	1416	709
35°	1253	1244	1183	1094	1067	783
45°	962	941	861	789	758	741
55°	668	648	587	518	491	599
65°	397	374	338	345	287	391
75°	159	148	139	132	146	171
85°	22	25	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1938.7	1938.7	1938.7	1938.7	1938.7
2.5°	1925.3	1925.3	1925.3	1923.0	1923.0
5°	1905.1	1902.9	1902.9	1900.6	1900.6
7.5°	1889.4	1887.2	1884.9	1882.7	1878.2
10°	1867.0	1867.0	1864.8	1853.6	1851.3
12.5°	1831.1	1828.9	1819.9	1804.2	1799.8
15°	1781.8	1781.8	1763.9	1746.0	1739.2
17.5°	1728.0	1725.8	1703.4	1685.5	1676.5
20°	1669.8	1665.3	1642.9	1613.7	1598.0
22.5°	1604.8	1604.8	1577.9	1539.8	1524.1
25°	1544.3	1535.3	1510.6	1456.8	1416.5
27.5°	1474.8	1461.3	1434.4	1358.2	1311.2
30°	1398.6	1391.8	1353.7	1255.1	1219.3
32.5°	1326.9	1315.6	1275.3	1172.2	1143.1
35°	1252.9	1243.9	1183.4	1093.8	1066.9
37.5°	1178.9	1167.7	1091.5	1019.8	986.2
40°	1105.0	1091.5	1008.6	943.6	907.7
42.5°	1035.5	1017.6	936.9	867.4	827.0
45°	961.5	941.3	860.7	788.9	757.6
47.5°	887.6	869.6	795.7	721.7	685.8
50°	809.1	793.4	726.2	652.2	614.1
52.5°	744.1	719.5	654.5	580.5	549.1
55°	667.9	647.7	587.2	517.7	490.8
57.5°	598.4	578.3	522.2	457.2	434.8
60°	533.4	504.3	457.2	401.2	383.3
62.5°	461.7	439.3	399.0	351.9	374.3
65°	396.7	374.3	338.4	345.2	286.9
67.5°	325.0	313.8	282.4	251.0	242.1
70°	264.5	251.0	239.8	206.2	197.2
72.5°	210.7	197.2	181.5	163.6	156.9
75°	159.1	147.9	139.0	132.2	145.7
77.5°	109.8	105.3	98.6	91.9	89.7
80°	71.7	69.5	67.2	65.0	62.8
82.5°	42.6	42.6	42.6	42.6	42.6
85°	22.4	24.7	26.9	29.1	31.4
87.5°	13.4	13.4	15.7	17.9	20.2
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)