

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: P546482

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-93-87-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: P546482
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-40-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

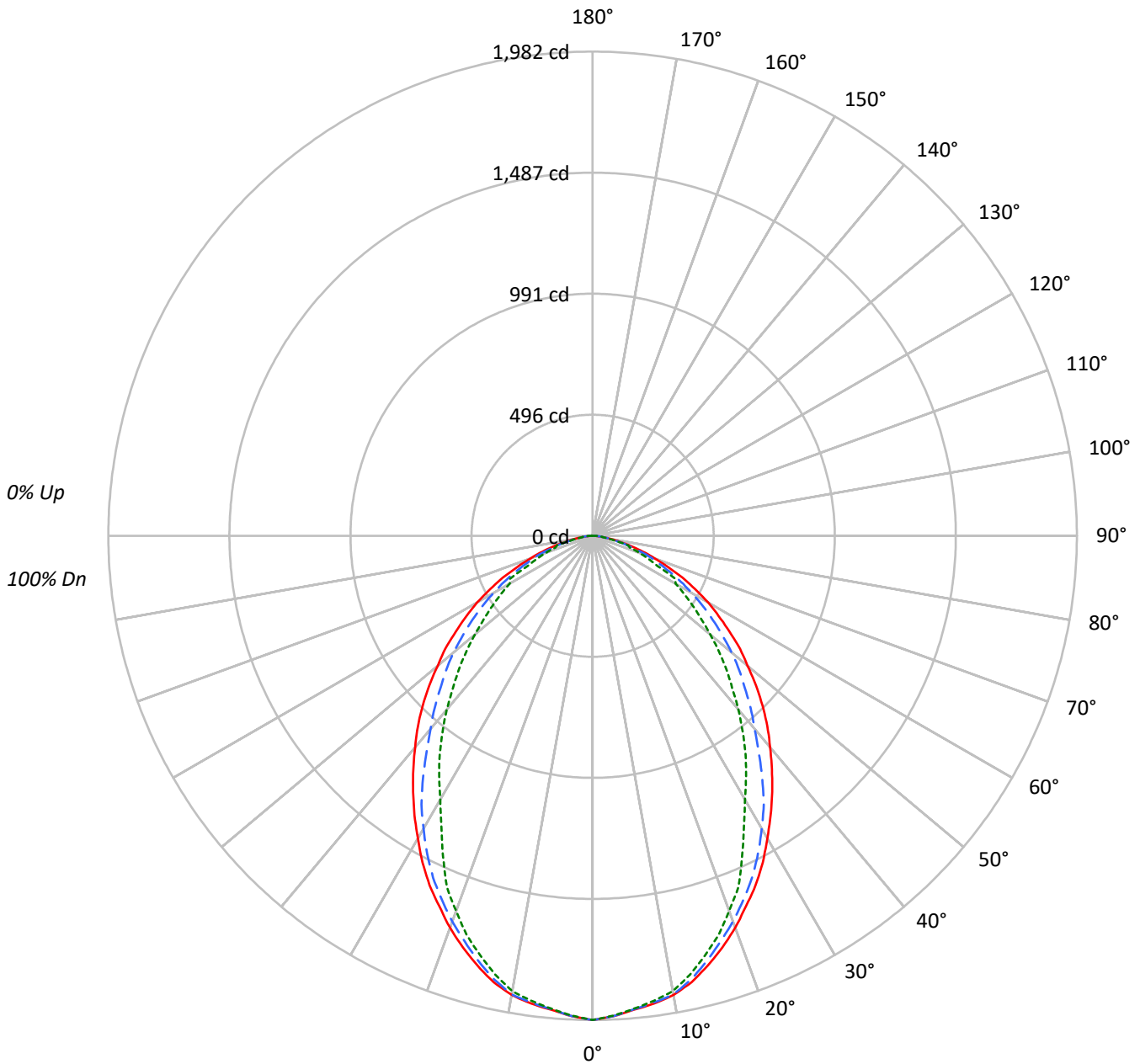
Lumens per Lamp: N/A
Luminaire Lumens: 3891.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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°	2667	2667	2667
5°	2631	2628	2624
10°	2608	2605	2586
15°	2537	2512	2477
20°	2444	2405	2339
25°	2344	2293	2150
30°	2221	2150	1937
35°	2104	1987	1792
40°	1984	1811	1630
45°	1870	1674	1474
50°	1732	1554	1314
55°	1602	1408	1177
60°	1467	1258	1054
65°	1291	1102	934
70°	1064	965	793
75°	846	739	774
80°	568	532	497
85°	354	425	496



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.5	4.7
10°-20°	506.3	13.0
20°-30°	701.0	18.0
30°-40°	747.5	19.2
40°-50°	681.9	17.5
50°-60°	534.2	13.7
60°-70°	348.2	8.9
70°-80°	154.3	4.0
80°-90°	33.1	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°	1391.8	35.8
0°-40°	2139.3	55.0
0°-60°	3355.5	86.2
0°-90°	3891.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3891.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1982	1982	1982	1982	1982	
5°	1948	1945	1945	1943	1943	185
15°	1822	1822	1803	1785	1778	512
25°	1579	1570	1544	1489	1448	725
35°	1281	1272	1210	1118	1091	801
45°	983	962	880	807	774	757
55°	683	662	600	529	502	612
65°	406	383	346	353	293	400
75°	163	151	142	135	149	174
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1982.0	1982.0	1982.0	1982.0	1982.0
2.5°	1968.3	1968.3	1968.3	1966.0	1966.0
5°	1947.7	1945.4	1945.4	1943.1	1943.1
7.5°	1931.6	1929.3	1927.0	1924.7	1920.2
10°	1908.7	1908.7	1906.4	1895.0	1892.7
12.5°	1872.0	1869.7	1860.6	1844.5	1840.0
15°	1821.6	1821.6	1803.3	1785.0	1778.1
17.5°	1766.6	1764.3	1741.4	1723.1	1713.9
20°	1707.1	1702.5	1679.6	1649.8	1633.7
22.5°	1640.6	1640.6	1613.1	1574.2	1558.1
25°	1578.7	1569.6	1544.4	1489.4	1448.1
27.5°	1507.7	1494.0	1466.5	1388.6	1340.4
30°	1429.8	1422.9	1384.0	1283.2	1246.5
32.5°	1356.5	1345.0	1303.8	1198.4	1168.6
35°	1280.9	1271.7	1209.8	1118.2	1090.7
37.5°	1205.3	1193.8	1115.9	1042.6	1008.2
40°	1129.6	1115.9	1031.1	964.7	928.0
42.5°	1058.6	1040.3	957.8	886.8	845.5
45°	983.0	962.4	879.9	806.6	774.5
47.5°	907.4	889.0	813.4	737.8	701.2
50°	827.2	811.1	742.4	666.8	627.8
52.5°	760.7	735.5	669.1	593.5	561.4
55°	682.8	662.2	600.3	529.3	501.8
57.5°	611.8	591.2	533.9	467.4	444.5
60°	545.3	515.6	467.4	410.2	391.8
62.5°	472.0	449.1	407.9	359.7	382.7
65°	405.6	382.7	346.0	352.9	293.3
67.5°	332.2	320.8	288.7	256.6	247.5
70°	270.4	256.6	245.2	210.8	201.6
72.5°	215.4	201.6	185.6	167.3	160.4
75°	162.7	151.2	142.1	135.2	148.9
77.5°	112.3	107.7	100.8	93.9	91.7
80°	73.3	71.0	68.7	66.4	64.2
82.5°	43.5	43.5	43.5	43.5	43.5
85°	22.9	25.2	27.5	29.8	32.1
87.5°	13.7	13.7	16.0	18.3	20.6
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)