

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: P546607

Luminaire Tested: **FMR-24-4-LD4-1STD-35-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: P546607
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-93-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

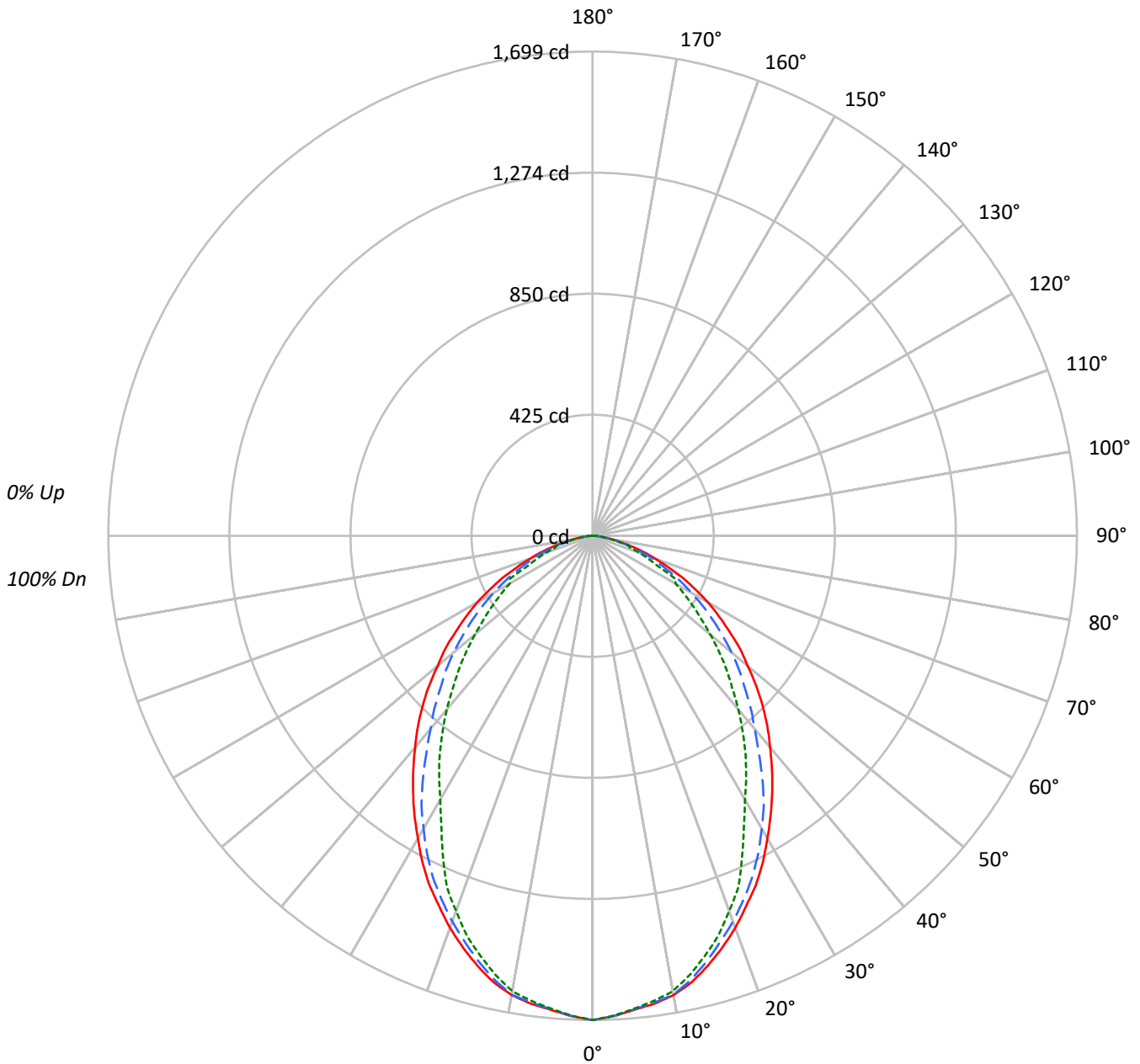
Lumens per Lamp: N/A
Luminaire Lumens: 3336.0 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				20				
RC	80				70				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			100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87			87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75			75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65			65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56			56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44			44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40			40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36			36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30			30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2286	2286	2286
5°	2255	2253	2250
10°	2236	2233	2217
15°	2176	2154	2124
20°	2096	2062	2006
25°	2010	1966	1843
30°	1905	1844	1660
35°	1804	1704	1536
40°	1701	1553	1397
45°	1604	1435	1263
50°	1485	1332	1127
55°	1373	1207	1009
60°	1258	1079	904
65°	1107	944	801
70°	912	827	680
75°	725	633	664
80°	487	456	426
85°	303	364	425



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.2	4.7
10°-20°	434.1	13.0
20°-30°	601.0	18.0
30°-40°	640.9	19.2
40°-50°	584.6	17.5
50°-60°	458.0	13.7
60°-70°	298.5	8.9
70°-80°	132.3	4.0
80°-90°	28.4	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°	1193.3	35.8
0°-40°	1834.2	55.0
0°-60°	2876.8	86.2
0°-90°	3336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3336.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1699	1699	1699	1699	1699	
5°	1670	1668	1668	1666	1666	159
15°	1562	1562	1546	1530	1524	439
25°	1354	1346	1324	1277	1242	621
35°	1098	1090	1037	959	935	687
45°	843	825	754	692	664	649
55°	585	568	515	454	430	525
65°	348	328	297	302	252	343
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1699.3	1699.3	1699.3	1699.3	1699.3
2.5°	1687.5	1687.5	1687.5	1685.6	1685.6
5°	1669.8	1667.9	1667.9	1665.9	1665.9
7.5°	1656.1	1654.1	1652.2	1650.2	1646.3
10°	1636.4	1636.4	1634.5	1624.7	1622.7
12.5°	1605.0	1603.1	1595.2	1581.4	1577.5
15°	1561.8	1561.8	1546.1	1530.4	1524.5
17.5°	1514.6	1512.7	1493.0	1477.3	1469.5
20°	1463.6	1459.6	1440.0	1414.5	1400.7
22.5°	1406.6	1406.6	1383.0	1349.6	1335.9
25°	1353.6	1345.7	1324.1	1276.9	1241.6
27.5°	1292.7	1280.9	1257.3	1190.5	1149.2
30°	1225.9	1220.0	1186.6	1100.1	1068.7
32.5°	1163.0	1153.2	1117.8	1027.4	1001.9
35°	1098.2	1090.3	1037.3	958.7	935.1
37.5°	1033.3	1023.5	956.7	893.9	864.4
40°	968.5	956.7	884.0	827.1	795.6
42.5°	907.6	891.9	821.2	760.3	724.9
45°	842.8	825.1	754.4	691.5	664.0
47.5°	778.0	762.2	697.4	632.6	601.1
50°	709.2	695.4	636.5	571.7	538.3
52.5°	652.2	630.6	573.6	508.8	481.3
55°	585.4	567.7	514.7	453.8	430.2
57.5°	524.5	506.8	457.7	400.8	381.1
60°	467.6	442.0	400.8	351.6	335.9
62.5°	404.7	385.0	349.7	308.4	328.1
65°	347.7	328.1	296.6	302.5	251.5
67.5°	284.9	275.0	247.5	220.0	212.2
70°	231.8	220.0	210.2	180.7	172.9
72.5°	184.7	172.9	159.1	143.4	137.5
75°	139.5	129.7	121.8	115.9	127.7
77.5°	96.3	92.3	86.4	80.5	78.6
80°	62.9	60.9	58.9	57.0	55.0
82.5°	37.3	37.3	37.3	37.3	37.3
85°	19.6	21.6	23.6	25.5	27.5
87.5°	11.8	11.8	13.8	15.7	17.7
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)