

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: P546640

Luminaire Tested: **FMR-24-4-LD4-1STD-40-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: P546640
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

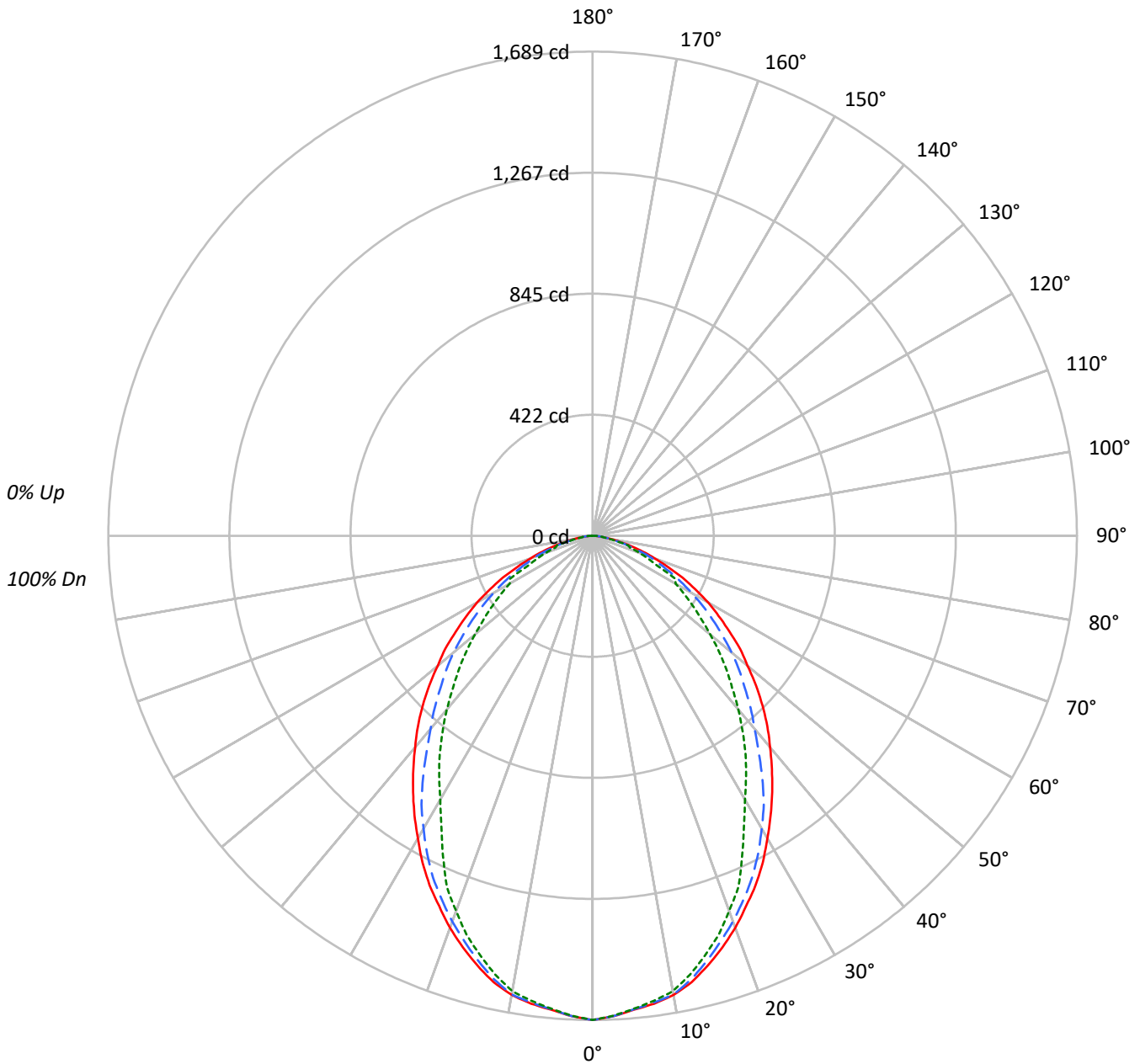
Lumens per Lamp: N/A
Luminaire Lumens: 3316.0 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2273	2273	2273
5°	2242	2239	2237
10°	2222	2220	2204
15°	2162	2141	2111
20°	2083	2050	1994
25°	1997	1954	1832
30°	1893	1833	1650
35°	1793	1694	1527
40°	1691	1543	1389
45°	1594	1427	1256
50°	1476	1324	1120
55°	1365	1200	1003
60°	1251	1072	899
65°	1100	939	796
70°	906	822	676
75°	721	630	660
80°	484	454	424
85°	301	361	421



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.2	4.7
10°-20°	431.5	13.0
20°-30°	597.4	18.0
30°-40°	637.0	19.2
40°-50°	581.1	17.5
50°-60°	455.3	13.7
60°-70°	296.7	8.9
70°-80°	131.5	4.0
80°-90°	28.2	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°	1186.2	35.8
0°-40°	1823.2	55.0
0°-60°	2859.6	86.2
0°-90°	3316.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3316.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1689	1689	1689	1689	1689	
5°	1660	1658	1658	1656	1656	158
15°	1552	1552	1537	1521	1515	436
25°	1345	1338	1316	1269	1234	618
35°	1092	1084	1031	953	930	682
45°	838	820	750	687	660	645
55°	582	564	512	451	428	522
65°	346	326	295	301	250	341
75°	139	129	121	115	127	149
85°	20	22	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1689.1	1689.1	1689.1	1689.1	1689.1
2.5°	1677.4	1677.4	1677.4	1675.5	1675.5
5°	1659.8	1657.9	1657.9	1655.9	1655.9
7.5°	1646.2	1644.2	1642.3	1640.3	1636.4
10°	1626.6	1626.6	1624.7	1614.9	1613.0
12.5°	1595.4	1593.4	1585.6	1572.0	1568.1
15°	1552.4	1552.4	1536.8	1521.2	1515.3
17.5°	1505.6	1503.6	1484.1	1468.5	1460.7
20°	1454.8	1450.9	1431.4	1406.0	1392.3
22.5°	1398.2	1398.2	1374.7	1341.5	1327.9
25°	1345.4	1337.6	1316.2	1269.3	1234.1
27.5°	1284.9	1273.2	1249.8	1183.4	1142.4
30°	1218.5	1212.7	1179.5	1093.5	1062.3
32.5°	1156.0	1146.3	1111.1	1021.3	995.9
35°	1091.6	1083.8	1031.1	952.9	929.5
37.5°	1027.1	1017.4	951.0	888.5	859.2
40°	962.7	951.0	878.7	822.1	790.9
42.5°	902.2	886.5	816.2	755.7	720.6
45°	837.7	820.2	749.9	687.4	660.0
47.5°	773.3	757.7	693.2	628.8	597.5
50°	704.9	691.3	632.7	568.2	535.1
52.5°	648.3	626.8	570.2	505.8	478.4
55°	581.9	564.3	511.6	451.1	427.7
57.5°	521.4	503.8	455.0	398.4	378.8
60°	464.8	439.4	398.4	349.5	333.9
62.5°	402.3	382.7	347.6	306.6	326.1
65°	345.6	326.1	294.9	300.7	250.0
67.5°	283.1	273.4	246.0	218.7	210.9
70°	230.4	218.7	208.9	179.7	171.8
72.5°	183.6	171.8	158.2	142.6	136.7
75°	138.6	128.9	121.1	115.2	126.9
77.5°	95.7	91.8	85.9	80.1	78.1
80°	62.5	60.5	58.6	56.6	54.7
82.5°	37.1	37.1	37.1	37.1	37.1
85°	19.5	21.5	23.4	25.4	27.3
87.5°	11.7	11.7	13.7	15.6	17.6
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)