

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: P546486

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-93-97-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: P546486
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-93-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

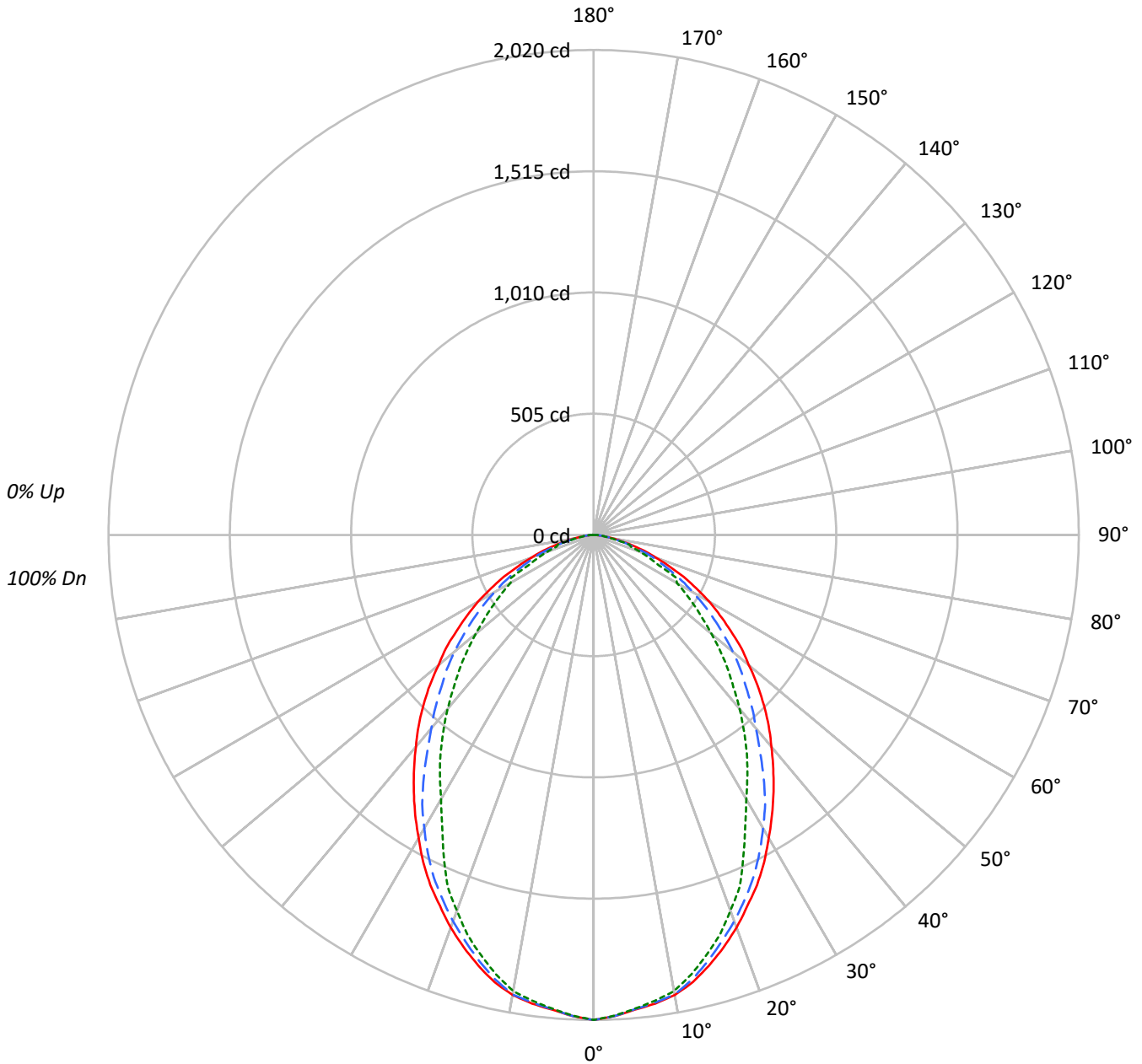
Lumens per Lamp: N/A
Luminaire Lumens: 3966.0 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2718	2718	2718
5°	2681	2678	2675
10°	2658	2655	2636
15°	2586	2560	2525
20°	2491	2451	2384
25°	2389	2337	2191
30°	2264	2192	1974
35°	2144	2026	1826
40°	2022	1846	1661
45°	1906	1706	1502
50°	1765	1584	1339
55°	1633	1435	1200
60°	1496	1282	1075
65°	1316	1123	952
70°	1084	983	808
75°	862	753	789
80°	579	543	507
85°	361	432	505



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.1	4.7
10°-20°	516.1	13.0
20°-30°	714.5	18.0
30°-40°	761.9	19.2
40°-50°	695.0	17.5
50°-60°	544.5	13.7
60°-70°	354.9	8.9
70°-80°	157.2	4.0
80°-90°	33.8	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°	1418.7	35.8
0°-40°	2180.6	55.0
0°-60°	3420.1	86.2
0°-90°	3966.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3966.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2020	2020	2020	2020	2020	
5°	1985	1983	1983	1980	1980	188
15°	1857	1857	1838	1819	1812	522
25°	1609	1600	1574	1518	1476	739
35°	1306	1296	1233	1140	1112	816
45°	1002	981	897	822	789	772
55°	696	675	612	540	512	624
65°	413	390	353	360	299	407
75°	166	154	145	138	152	178
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2020.2	2020.2	2020.2	2020.2	2020.2
2.5°	2006.2	2006.2	2006.2	2003.9	2003.9
5°	1985.2	1982.9	1982.9	1980.5	1980.5
7.5°	1968.8	1966.5	1964.2	1961.8	1957.2
10°	1945.5	1945.5	1943.2	1931.5	1929.1
12.5°	1908.1	1905.8	1896.4	1880.1	1875.4
15°	1856.7	1856.7	1838.1	1819.4	1812.4
17.5°	1800.7	1798.4	1775.0	1756.3	1747.0
20°	1740.0	1735.3	1711.9	1681.6	1665.2
22.5°	1672.2	1672.2	1644.2	1604.5	1588.2
25°	1609.2	1599.8	1574.1	1518.1	1476.1
27.5°	1536.8	1522.8	1494.7	1415.3	1366.3
30°	1457.4	1450.4	1410.7	1307.9	1270.5
32.5°	1382.6	1371.0	1328.9	1221.5	1191.1
35°	1305.6	1296.2	1233.2	1139.7	1111.7
37.5°	1228.5	1216.8	1137.4	1062.7	1027.6
40°	1151.4	1137.4	1051.0	983.3	945.9
42.5°	1079.0	1060.3	976.2	903.8	861.8
45°	1001.9	980.9	896.8	822.1	789.4
47.5°	924.9	906.2	829.1	752.0	714.7
50°	843.1	826.8	756.7	679.6	639.9
52.5°	775.4	749.7	682.0	604.9	572.2
55°	696.0	675.0	611.9	539.5	511.5
57.5°	623.6	602.6	544.2	476.4	453.1
60°	555.9	525.5	476.4	418.1	399.4
62.5°	481.1	457.8	415.7	366.7	390.0
65°	413.4	390.0	352.7	359.7	298.9
67.5°	338.7	327.0	294.3	261.6	252.2
70°	275.6	261.6	249.9	214.9	205.5
72.5°	219.5	205.5	189.2	170.5	163.5
75°	165.8	154.1	144.8	137.8	151.8
77.5°	114.4	109.8	102.8	95.8	93.4
80°	74.7	72.4	70.1	67.7	65.4
82.5°	44.4	44.4	44.4	44.4	44.4
85°	23.4	25.7	28.0	30.4	32.7
87.5°	14.0	14.0	16.3	18.7	21.0
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)