

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: P546796

Luminaire Tested: **FMR-24-4-LD4-2LO-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: P546796
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-LD4-2LO-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

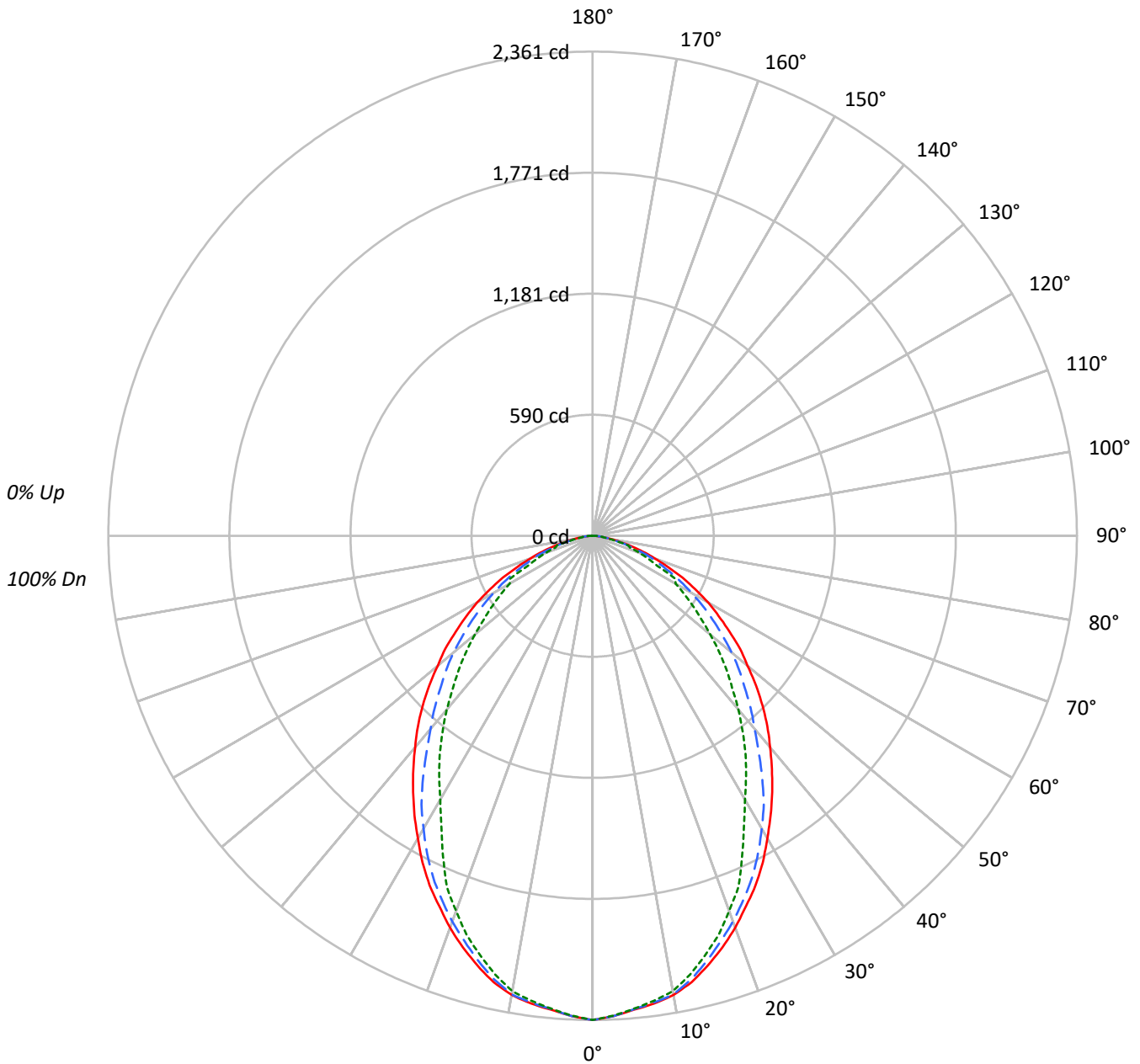
Lumens per Lamp: N/A
Luminaire Lumens: 4635.0 lumens
Efficiency: N/A
Efficacy: 99.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	3177	3177	3177
5°	3134	3130	3126
10°	3106	3103	3080
15°	3023	2992	2950
20°	2912	2865	2787
25°	2792	2731	2561
30°	2646	2561	2307
35°	2506	2367	2134
40°	2363	2157	1942
45°	2228	1994	1756
50°	2062	1851	1566
55°	1908	1677	1402
60°	1748	1498	1256
65°	1538	1312	1112
70°	1267	1149	945
75°	1007	880	922
80°	676	635	592
85°	421	506	590



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.8	4.7
10°-20°	603.2	13.0
20°-30°	835.0	18.0
30°-40°	890.4	19.2
40°-50°	812.3	17.5
50°-60°	636.4	13.7
60°-70°	414.7	8.9
70°-80°	183.8	4.0
80°-90°	39.5	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°	1658.0	35.8
0°-40°	2548.4	55.0
0°-60°	3997.0	86.2
0°-90°	4635.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4635.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2361	2361	2361	2361	2361	
5°	2320	2317	2317	2315	2315	220
15°	2170	2170	2148	2126	2118	610
25°	1881	1870	1840	1774	1725	863
35°	1526	1515	1441	1332	1299	954
45°	1171	1146	1048	961	923	902
55°	813	789	715	630	598	730
65°	483	456	412	420	349	476
75°	194	180	169	161	177	208
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2361.0	2361.0	2361.0	2361.0	2361.0
2.5°	2344.6	2344.6	2344.6	2341.9	2341.9
5°	2320.1	2317.3	2317.3	2314.6	2314.6
7.5°	2301.0	2298.2	2295.5	2292.8	2287.3
10°	2273.7	2273.7	2270.9	2257.3	2254.6
12.5°	2230.0	2227.3	2216.3	2197.2	2191.8
15°	2169.9	2169.9	2148.1	2126.3	2118.1
17.5°	2104.4	2101.7	2074.4	2052.6	2041.7
20°	2033.5	2028.0	2000.7	1965.2	1946.1
22.5°	1954.3	1954.3	1921.6	1875.2	1856.1
25°	1880.6	1869.7	1839.7	1774.2	1725.0
27.5°	1796.0	1779.6	1746.9	1654.1	1596.8
30°	1703.2	1695.0	1648.6	1528.5	1484.8
32.5°	1615.9	1602.2	1553.1	1427.5	1392.0
35°	1525.8	1514.9	1441.2	1332.0	1299.2
37.5°	1435.7	1422.1	1329.3	1241.9	1201.0
40°	1345.6	1329.3	1228.3	1149.1	1105.4
42.5°	1261.0	1239.2	1140.9	1056.3	1007.2
45°	1171.0	1146.4	1048.1	960.8	922.6
47.5°	1080.9	1059.0	969.0	878.9	835.2
50°	985.3	966.2	884.4	794.3	747.9
52.5°	906.2	876.2	797.0	706.9	668.7
55°	813.4	788.8	715.1	630.5	597.8
57.5°	728.8	704.2	636.0	556.8	529.5
60°	649.6	614.1	556.8	488.6	466.7
62.5°	562.3	535.0	485.8	428.5	455.8
65°	483.1	455.8	412.2	420.3	349.4
67.5°	395.8	382.1	343.9	305.7	294.8
70°	322.1	305.7	292.1	251.1	240.2
72.5°	256.6	240.2	221.1	199.3	191.1
75°	193.8	180.1	169.2	161.0	177.4
77.5°	133.7	128.3	120.1	111.9	109.2
80°	87.3	84.6	81.9	79.2	76.4
82.5°	51.9	51.9	51.9	51.9	51.9
85°	27.3	30.0	32.8	35.5	38.2
87.5°	16.4	16.4	19.1	21.8	24.6
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)