

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: P546323

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-93-88-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: P546323
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-12-4-LD4-2STD-35-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

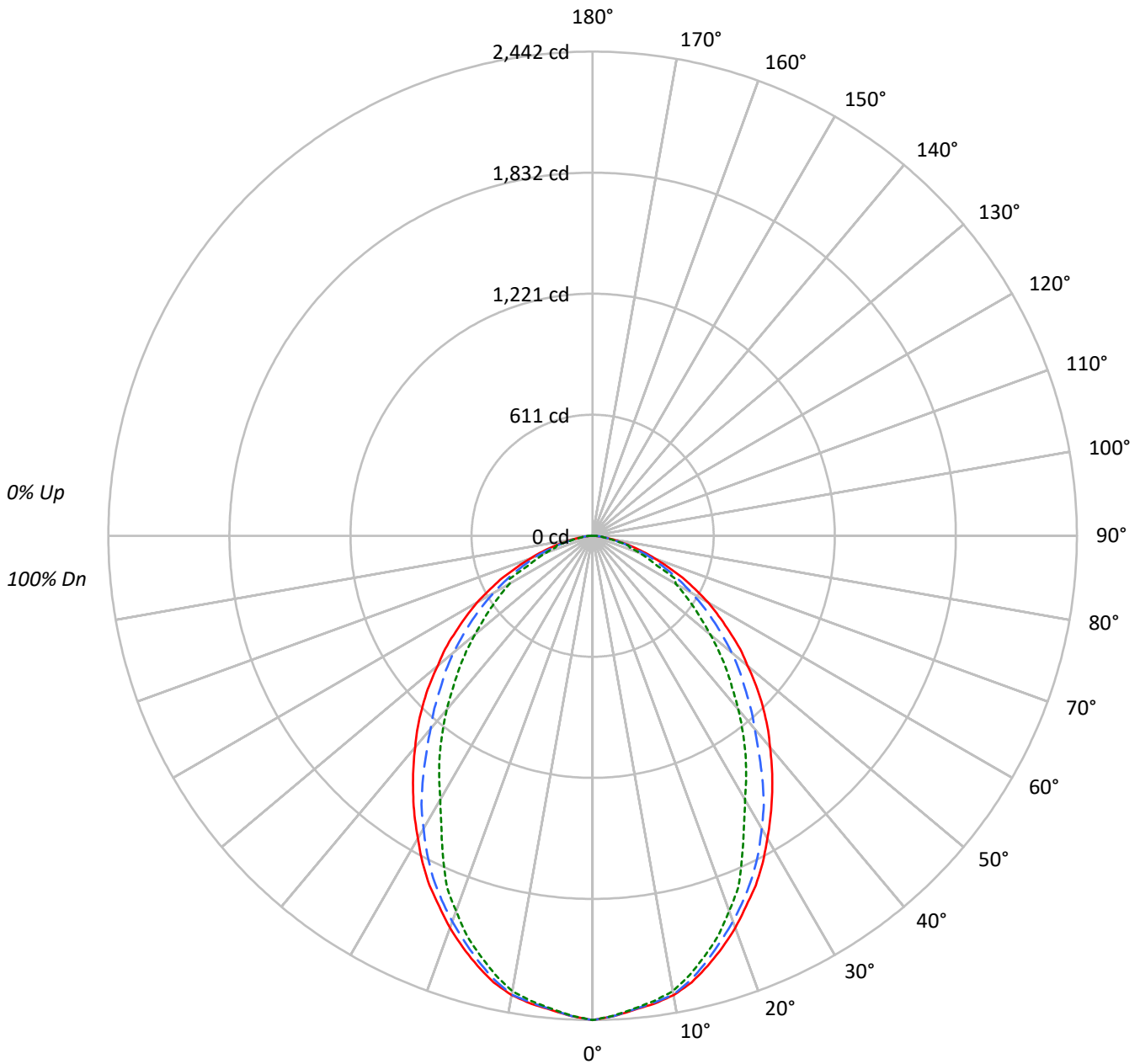
Lumens per Lamp: N/A
Luminaire Lumens: 4795.0 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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								
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°	6573	6573	6573
5°	6484	6476	6468
10°	6427	6419	6373
15°	6254	6191	6104
20°	6024	5927	5765
25°	5777	5651	5299
30°	5475	5299	4773
35°	5185	4898	4415
40°	4890	4464	4017
45°	4610	4126	3632
50°	4268	3830	3239
55°	3948	3471	2901
60°	3617	3100	2599
65°	3182	2715	2301
70°	2622	2377	1955
75°	2085	1821	1908
80°	1401	1313	1226
85°	871	1047	1220



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.4	4.7
10°-20°	624.0	13.0
20°-30°	863.9	18.0
30°-40°	921.1	19.2
40°-50°	840.3	17.5
50°-60°	658.3	13.7
60°-70°	429.1	8.9
70°-80°	190.1	4.0
80°-90°	40.8	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°	1715.2	35.8
0°-40°	2636.3	55.0
0°-60°	4135.0	86.2
0°-90°	4795.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4795.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2442	2442	2442	2442	2442	
5°	2400	2397	2397	2394	2394	228
15°	2245	2245	2222	2200	2191	631
25°	1946	1934	1903	1835	1785	893
35°	1578	1567	1491	1378	1344	987
45°	1211	1186	1084	994	954	933
55°	842	816	740	652	618	755
65°	500	472	426	435	361	493
75°	200	186	175	167	184	215
85°	28	31	34	37	40	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2442.5	2442.5	2442.5	2442.5	2442.5
2.5°	2425.6	2425.6	2425.6	2422.7	2422.7
5°	2400.2	2397.3	2397.3	2394.5	2394.5
7.5°	2380.4	2377.6	2374.7	2371.9	2366.3
10°	2352.2	2352.2	2349.3	2335.2	2332.4
12.5°	2307.0	2304.1	2292.9	2273.1	2267.4
15°	2244.8	2244.8	2222.3	2199.7	2191.2
17.5°	2177.1	2174.3	2146.0	2123.4	2112.1
20°	2103.7	2098.0	2069.8	2033.1	2013.3
22.5°	2021.8	2021.8	1987.9	1939.9	1920.1
25°	1945.5	1934.2	1903.2	1835.4	1784.6
27.5°	1858.0	1841.1	1807.2	1711.2	1651.9
30°	1762.0	1753.5	1705.5	1581.3	1536.1
32.5°	1671.6	1657.5	1606.7	1476.8	1440.1
35°	1578.5	1567.2	1490.9	1378.0	1344.1
37.5°	1485.3	1471.2	1375.1	1284.8	1242.4
40°	1392.1	1375.1	1270.7	1188.8	1143.6
42.5°	1304.6	1282.0	1180.3	1092.8	1041.9
45°	1211.4	1186.0	1084.3	993.9	954.4
47.5°	1118.2	1095.6	1002.4	909.2	864.1
50°	1019.4	999.6	914.9	821.7	773.7
52.5°	937.5	906.4	824.5	731.3	691.8
55°	841.5	816.1	739.8	652.3	618.4
57.5°	753.9	728.5	657.9	576.0	547.8
60°	672.0	635.3	576.0	505.4	482.9
62.5°	581.7	553.4	502.6	443.3	471.6
65°	499.8	471.6	426.4	434.9	361.4
67.5°	409.4	395.3	355.8	316.3	305.0
70°	333.2	316.3	302.1	259.8	248.5
72.5°	265.4	248.5	228.7	206.1	197.7
75°	200.5	186.4	175.1	166.6	183.5
77.5°	138.4	132.7	124.2	115.8	112.9
80°	90.4	87.5	84.7	81.9	79.1
82.5°	53.7	53.7	53.7	53.7	53.7
85°	28.2	31.1	33.9	36.7	39.5
87.5°	16.9	16.9	19.8	22.6	25.4
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)