

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: P546288

Luminaire Tested: **FMR-12-4-LD4-2LO-50-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: P546288
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-LD4-2LO-50-UNV-93-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

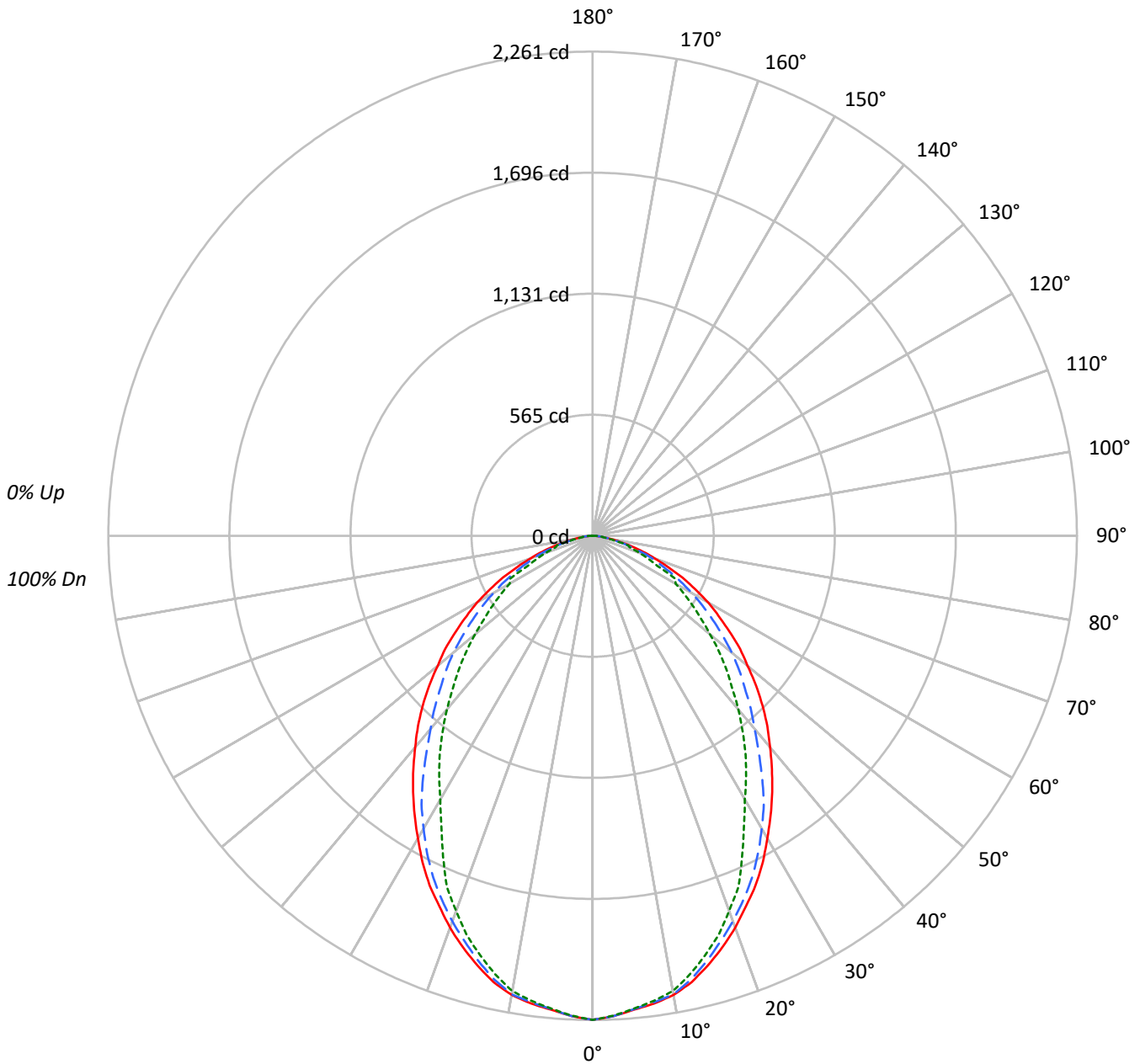
Lumens per Lamp: N/A
Luminaire Lumens: 4438.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	6083	6083	6083
5°	6001	5994	5987
10°	5949	5942	5899
15°	5788	5730	5650
20°	5576	5486	5336
25°	5347	5230	4904
30°	5067	4905	4418
35°	4799	4533	4087
40°	4526	4131	3718
45°	4267	3819	3362
50°	3950	3545	2998
55°	3654	3212	2685
60°	3348	2869	2405
65°	2946	2513	2130
70°	2426	2200	1810
75°	1930	1684	1766
80°	1296	1215	1134
85°	806	969	1130



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.4	4.7
10°-20°	577.5	13.0
20°-30°	799.5	18.0
30°-40°	852.5	19.2
40°-50°	777.8	17.5
50°-60°	609.3	13.7
60°-70°	397.1	8.9
70°-80°	175.9	4.0
80°-90°	37.8	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°	1587.5	35.8
0°-40°	2440.1	55.0
0°-60°	3827.1	86.2
0°-90°	4438.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4438.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2261	2261	2261	2261	2261	
5°	2222	2219	2219	2216	2216	211
15°	2078	2078	2057	2036	2028	584
25°	1801	1790	1762	1699	1652	827
35°	1461	1450	1380	1275	1244	913
45°	1121	1098	1004	920	883	864
55°	779	755	685	604	572	699
65°	463	436	395	402	334	456
75°	186	172	162	154	170	199
85°	26	29	31	34	37	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2260.7	2260.7	2260.7	2260.7	2260.7
2.5°	2245.0	2245.0	2245.0	2242.4	2242.4
5°	2221.5	2218.8	2218.8	2216.2	2216.2
7.5°	2203.2	2200.5	2197.9	2195.3	2190.1
10°	2177.0	2177.0	2174.4	2161.3	2158.7
12.5°	2135.2	2132.6	2122.1	2103.8	2098.6
15°	2077.7	2077.7	2056.8	2035.9	2028.1
17.5°	2015.0	2012.4	1986.2	1965.3	1954.9
20°	1947.0	1941.8	1915.7	1881.7	1863.4
22.5°	1871.2	1871.2	1839.9	1795.5	1777.2
25°	1800.7	1790.2	1761.5	1698.8	1651.7
27.5°	1719.7	1704.0	1672.6	1583.8	1528.9
30°	1630.8	1623.0	1578.5	1463.5	1421.7
32.5°	1547.2	1534.1	1487.1	1366.8	1332.9
35°	1460.9	1450.5	1379.9	1275.4	1244.0
37.5°	1374.7	1361.6	1272.8	1189.1	1149.9
40°	1288.4	1272.8	1176.1	1100.3	1058.5
42.5°	1207.4	1186.5	1092.4	1011.4	964.4
45°	1121.2	1097.7	1003.6	919.9	883.4
47.5°	1034.9	1014.0	927.8	841.5	799.7
50°	943.5	925.2	846.8	760.5	716.1
52.5°	867.7	838.9	763.1	676.9	640.3
55°	778.8	755.3	684.7	603.7	572.4
57.5°	697.8	674.3	608.9	533.1	507.0
60°	622.0	588.0	533.1	467.8	446.9
62.5°	538.4	512.2	465.2	410.3	436.5
65°	462.6	436.5	394.6	402.5	334.5
67.5°	379.0	365.9	329.3	292.7	282.3
70°	308.4	292.7	279.6	240.4	230.0
72.5°	245.7	230.0	211.7	190.8	182.9
75°	185.6	172.5	162.0	154.2	169.9
77.5°	128.1	122.8	115.0	107.2	104.5
80°	83.6	81.0	78.4	75.8	73.2
82.5°	49.7	49.7	49.7	49.7	49.7
85°	26.1	28.7	31.4	34.0	36.6
87.5°	15.7	15.7	18.3	20.9	23.5
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)