

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: P546347

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-88-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: P546347
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-40-UNV-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

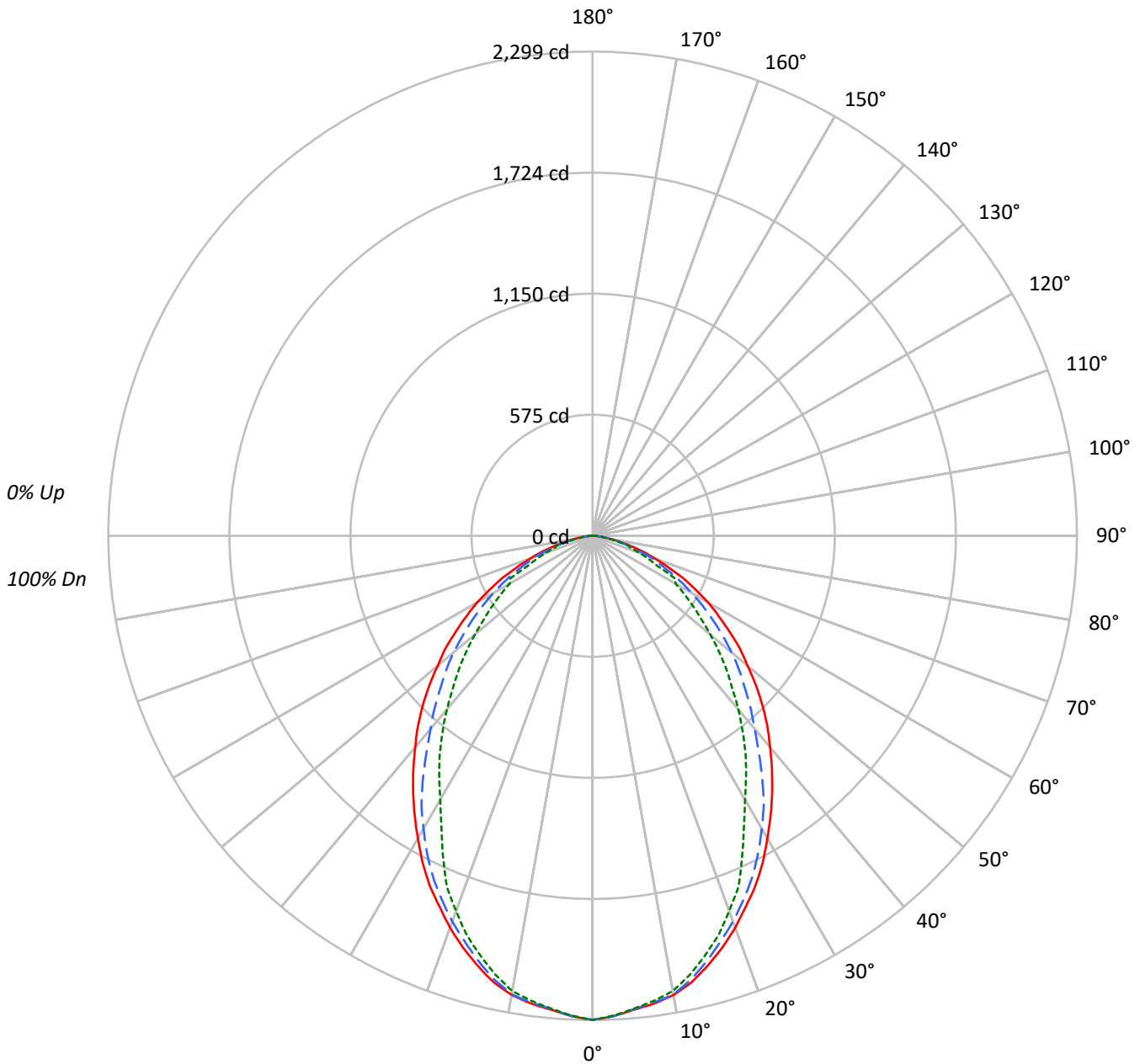
Lumens per Lamp: N/A
Luminaire Lumens: 4513.0 lumens
Efficiency: N/A
Efficacy: 67.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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									
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°	6186	6186	6186
5°	6102	6095	6088
10°	6049	6042	5998
15°	5886	5827	5745
20°	5670	5579	5426
25°	5437	5319	4987
30°	5153	4988	4492
35°	4880	4610	4156
40°	4603	4201	3781
45°	4339	3884	3419
50°	4016	3605	3049
55°	3716	3267	2730
60°	3404	2918	2446
65°	2995	2555	2166
70°	2467	2238	1840
75°	1962	1713	1796
80°	1317	1235	1153
85°	821	985	1149



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.0	4.7
10°-20°	587.3	13.0
20°-30°	813.1	18.0
30°-40°	866.9	19.2
40°-50°	790.9	17.5
50°-60°	619.6	13.7
60°-70°	403.9	8.9
70°-80°	178.9	4.0
80°-90°	38.4	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°	1614.3	35.8
0°-40°	2481.3	55.0
0°-60°	3891.8	86.2
0°-90°	4513.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4513.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2299	2299	2299	2299	2299	
5°	2259	2256	2256	2254	2254	214
15°	2113	2113	2092	2070	2062	594
25°	1831	1820	1791	1728	1680	841
35°	1486	1475	1403	1297	1265	929
45°	1140	1116	1020	936	898	878
55°	792	768	696	614	582	710
65°	470	444	401	409	340	464
75°	189	175	165	157	173	202
85°	27	29	32	34	37	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2298.9	2298.9	2298.9	2298.9	2298.9
2.5°	2282.9	2282.9	2282.9	2280.3	2280.3
5°	2259.0	2256.3	2256.3	2253.7	2253.7
7.5°	2240.4	2237.7	2235.1	2232.4	2227.1
10°	2213.8	2213.8	2211.2	2197.9	2195.2
12.5°	2171.3	2168.6	2158.0	2139.4	2134.1
15°	2112.8	2112.8	2091.6	2070.3	2062.3
17.5°	2049.0	2046.4	2019.8	1998.5	1987.9
20°	1979.9	1974.6	1948.1	1913.5	1894.9
22.5°	1902.9	1902.9	1871.0	1825.8	1807.2
25°	1831.1	1820.5	1791.3	1727.5	1679.6
27.5°	1748.7	1732.8	1700.9	1610.5	1554.7
30°	1658.4	1650.4	1605.2	1488.3	1445.8
32.5°	1573.3	1560.0	1512.2	1389.9	1355.4
35°	1485.6	1475.0	1403.2	1296.9	1265.0
37.5°	1397.9	1384.6	1294.3	1209.2	1169.4
40°	1310.2	1294.3	1195.9	1118.9	1076.3
42.5°	1227.8	1206.6	1110.9	1028.5	980.7
45°	1140.1	1116.2	1020.5	935.5	898.3
47.5°	1052.4	1031.2	943.5	855.8	813.2
50°	959.4	940.8	861.1	773.4	728.2
52.5°	882.3	853.1	776.0	688.3	651.1
55°	792.0	768.1	696.3	613.9	582.0
57.5°	709.6	685.7	619.2	542.2	515.6
60°	632.5	598.0	542.2	475.7	454.5
62.5°	547.5	520.9	473.1	417.3	443.8
65°	470.4	443.8	401.3	409.3	340.2
67.5°	385.4	372.1	334.9	297.7	287.0
70°	313.6	297.7	284.4	244.5	233.9
72.5°	249.8	233.9	215.3	194.0	186.0
75°	188.7	175.4	164.8	156.8	172.7
77.5°	130.2	124.9	116.9	109.0	106.3
80°	85.0	82.4	79.7	77.1	74.4
82.5°	50.5	50.5	50.5	50.5	50.5
85°	26.6	29.2	31.9	34.5	37.2
87.5°	15.9	15.9	18.6	21.3	23.9
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)