

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: P546017

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-81-86-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: P546017
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-LD4-1STD-35-UNV-81-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

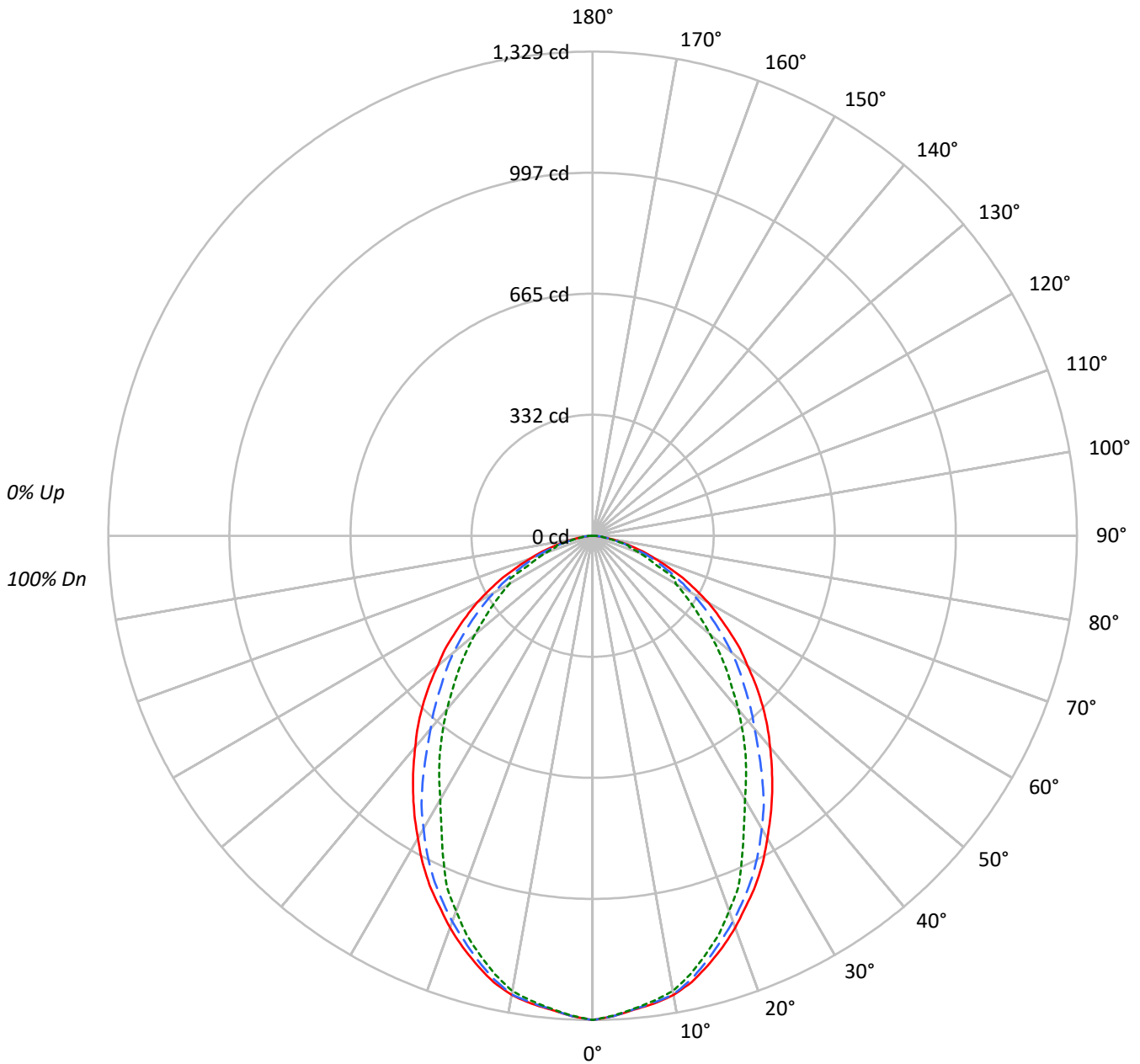
Lumens per Lamp: N/A
Luminaire Lumens: 2609.0 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	3576	3576	3576
5°	3528	3524	3519
10°	3497	3493	3468
15°	3403	3369	3321
20°	3278	3225	3137
25°	3143	3075	2883
30°	2979	2884	2597
35°	2822	2665	2402
40°	2661	2429	2186
45°	2508	2245	1976
50°	2322	2084	1762
55°	2148	1888	1579
60°	1968	1687	1414
65°	1731	1477	1252
70°	1426	1293	1064
75°	1134	991	1039
80°	762	714	666
85°	475	568	664



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.7	4.7
10°-20°	339.5	13.0
20°-30°	470.0	18.0
30°-40°	501.2	19.2
40°-50°	457.2	17.5
50°-60°	358.2	13.7
60°-70°	233.5	8.9
70°-80°	103.4	4.0
80°-90°	22.2	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°	933.3	35.8
0°-40°	1434.5	55.0
0°-60°	2249.9	86.2
0°-90°	2609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2609.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1306	1304	1304	1303	1303	124
15°	1221	1221	1209	1197	1192	343
25°	1059	1052	1036	999	971	486
35°	859	853	811	750	731	537
45°	659	645	590	541	519	508
55°	458	444	402	355	336	411
65°	272	257	232	237	197	268
75°	109	101	95	91	100	117
85°	15	17	18	20	22	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1329.0	1329.0	1329.0	1329.0	1329.0
2.5°	1319.8	1319.8	1319.8	1318.2	1318.2
5°	1305.9	1304.4	1304.4	1302.9	1302.9
7.5°	1295.2	1293.7	1292.1	1290.6	1287.5
10°	1279.8	1279.8	1278.3	1270.6	1269.1
12.5°	1255.2	1253.7	1247.6	1236.8	1233.7
15°	1221.4	1221.4	1209.2	1196.9	1192.2
17.5°	1184.6	1183.0	1167.7	1155.4	1149.2
20°	1144.6	1141.5	1126.2	1106.2	1095.5
22.5°	1100.1	1100.1	1081.6	1055.5	1044.8
25°	1058.6	1052.4	1035.5	998.7	971.0
27.5°	1011.0	1001.7	983.3	931.1	898.8
30°	958.7	954.1	928.0	860.4	835.8
32.5°	909.6	901.9	874.2	803.5	783.6
35°	858.9	852.7	811.2	749.8	731.3
37.5°	808.1	800.5	748.2	699.1	676.0
40°	757.4	748.2	691.4	646.8	622.2
42.5°	709.8	697.5	642.2	594.6	566.9
45°	659.1	645.3	590.0	540.8	519.3
47.5°	608.4	596.1	545.4	494.7	470.1
50°	554.6	543.9	497.8	447.1	421.0
52.5°	510.1	493.2	448.6	397.9	376.4
55°	457.8	444.0	402.5	354.9	336.5
57.5°	410.2	396.4	358.0	313.4	298.1
60°	365.7	345.7	313.4	275.0	262.7
62.5°	316.5	301.1	273.5	241.2	256.6
65°	271.9	256.6	232.0	236.6	196.7
67.5°	222.8	215.1	193.6	172.1	165.9
70°	181.3	172.1	164.4	141.3	135.2
72.5°	144.4	135.2	124.4	112.2	107.5
75°	109.1	101.4	95.3	90.6	99.9
77.5°	75.3	72.2	67.6	63.0	61.5
80°	49.2	47.6	46.1	44.6	43.0
82.5°	29.2	29.2	29.2	29.2	29.2
85°	15.4	16.9	18.4	20.0	21.5
87.5°	9.2	9.2	10.8	12.3	13.8
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)