

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: P546058

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-82-87-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: P546058
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-40-UNV-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

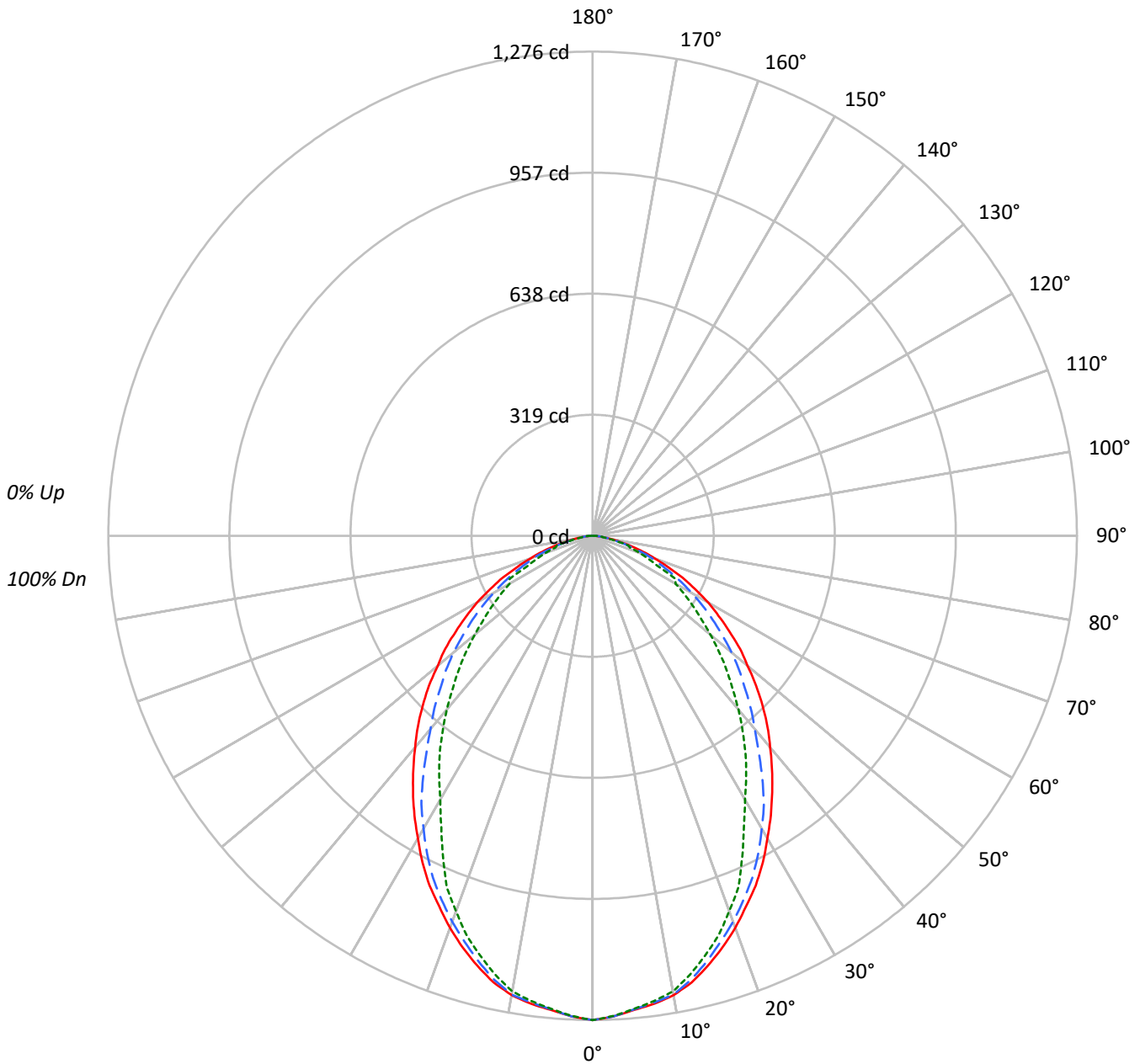
Lumens per Lamp: N/A
Luminaire Lumens: 2506.0 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3435	3435	3435
5°	3388	3384	3380
10°	3359	3355	3331
15°	3268	3236	3190
20°	3148	3098	3013
25°	3019	2953	2769
30°	2861	2770	2495
35°	2710	2560	2308
40°	2556	2333	2100
45°	2409	2157	1898
50°	2230	2002	1693
55°	2063	1814	1516
60°	1890	1621	1358
65°	1663	1419	1203
70°	1370	1242	1022
75°	1090	951	997
80°	731	687	640
85°	457	546	639



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.8	4.7
10°-20°	326.1	13.0
20°-30°	451.5	18.0
30°-40°	481.4	19.2
40°-50°	439.2	17.5
50°-60°	344.1	13.7
60°-70°	224.2	8.9
70°-80°	99.3	4.0
80°-90°	21.3	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°	896.4	35.8
0°-40°	1377.8	55.0
0°-60°	2161.1	86.2
0°-90°	2506.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2506.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1276	1276	1276	1276	1276	
5°	1254	1253	1253	1251	1251	119
15°	1173	1173	1161	1150	1145	330
25°	1017	1011	995	959	933	467
35°	825	819	779	720	702	516
45°	633	620	567	520	499	488
55°	440	426	387	341	323	394
65°	261	246	223	227	189	257
75°	105	97	92	87	96	112
85°	15	16	18	19	21	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1276.5	1276.5	1276.5	1276.5	1276.5
2.5°	1267.7	1267.7	1267.7	1266.2	1266.2
5°	1254.4	1252.9	1252.9	1251.4	1251.4
7.5°	1244.1	1242.6	1241.1	1239.6	1236.7
10°	1229.3	1229.3	1227.8	1220.4	1219.0
12.5°	1205.7	1204.2	1198.3	1188.0	1185.0
15°	1173.2	1173.2	1161.4	1149.6	1145.2
17.5°	1137.8	1136.3	1121.6	1109.8	1103.9
20°	1099.4	1096.5	1081.7	1062.5	1052.2
22.5°	1056.6	1056.6	1038.9	1013.8	1003.5
25°	1016.8	1010.9	994.7	959.2	932.7
27.5°	971.0	962.2	944.5	894.3	863.3
30°	920.9	916.4	891.4	826.4	802.8
32.5°	873.6	866.3	839.7	771.8	752.6
35°	824.9	819.0	779.2	720.2	702.5
37.5°	776.2	768.9	718.7	671.5	649.3
40°	727.5	718.7	664.1	621.3	597.7
42.5°	681.8	670.0	616.9	571.1	544.6
45°	633.1	619.8	566.7	519.5	498.8
47.5°	584.4	572.6	523.9	475.2	451.6
50°	532.7	522.4	478.1	429.4	404.4
52.5°	489.9	473.7	430.9	382.2	361.6
55°	439.8	426.5	386.6	340.9	323.2
57.5°	394.0	380.7	343.8	301.1	286.3
60°	351.2	332.0	301.1	264.2	252.4
62.5°	304.0	289.2	262.7	231.7	246.5
65°	261.2	246.5	222.8	227.3	188.9
67.5°	214.0	206.6	185.9	165.3	159.4
70°	174.1	165.3	157.9	135.8	129.9
72.5°	138.7	129.9	119.5	107.7	103.3
75°	104.8	97.4	91.5	87.1	95.9
77.5°	72.3	69.4	64.9	60.5	59.0
80°	47.2	45.7	44.3	42.8	41.3
82.5°	28.0	28.0	28.0	28.0	28.0
85°	14.8	16.2	17.7	19.2	20.7
87.5°	8.9	8.9	10.3	11.8	13.3
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)