

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: P547502

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-82-97-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: P547502
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-24-4-LD4-4STD-40-UNV-82-97-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

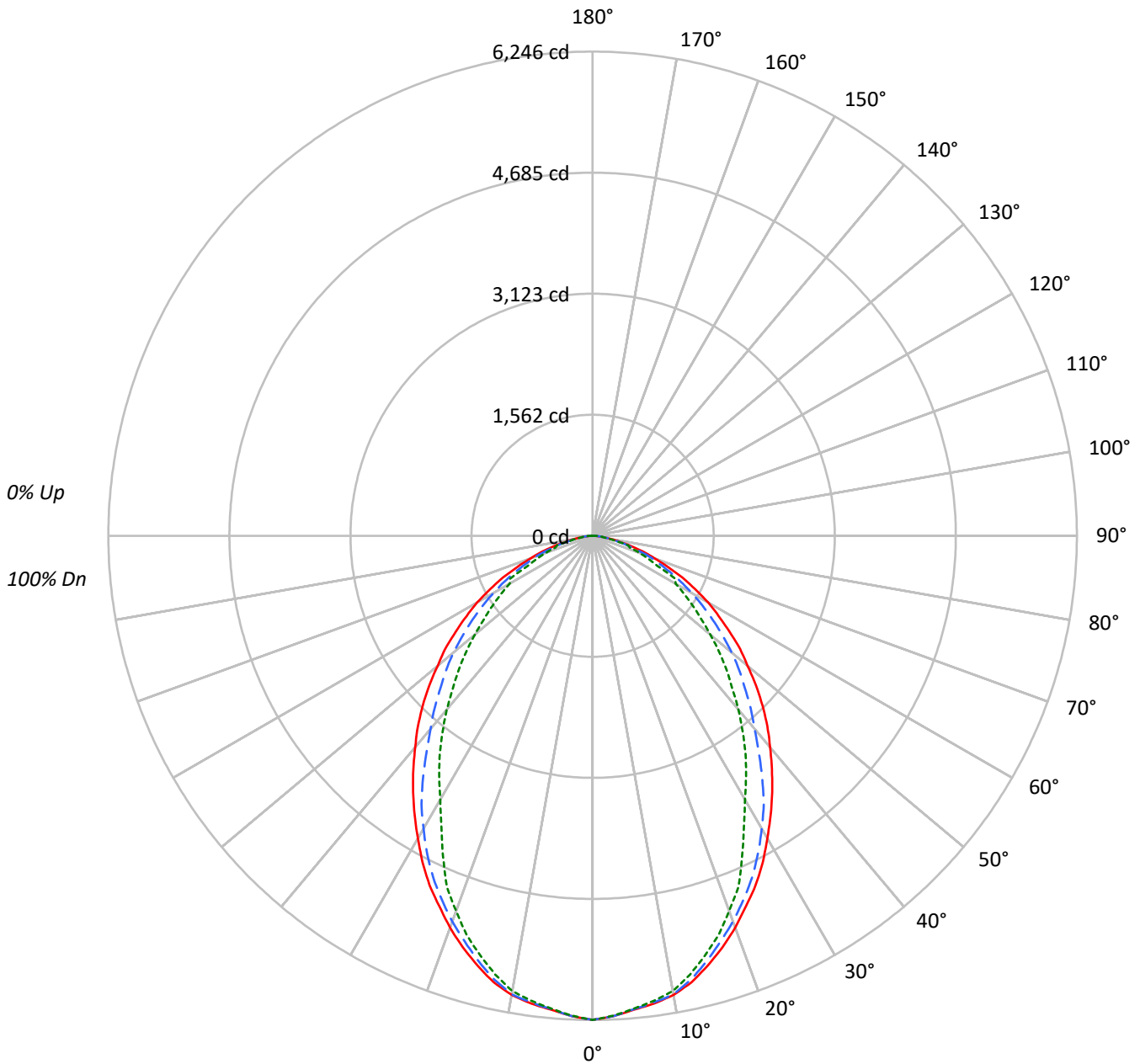
Lumens per Lamp: N/A
Luminaire Lumens: 12261.0 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	8403	8403	8403
5°	8289	8279	8270
10°	8217	8207	8148
15°	7996	7915	7805
20°	7702	7578	7371
25°	7386	7225	6775
30°	7000	6776	6103
35°	6630	6262	5645
40°	6252	5707	5136
45°	5894	5276	4644
50°	5456	4897	4141
55°	5047	4438	3709
60°	4624	3964	3323
65°	4069	3471	2942
70°	3352	3039	2500
75°	2665	2327	2440
80°	1791	1678	1567
85°	1115	1337	1561



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	581.4	4.7
10°-20°	1595.5	13.0
20°-30°	2208.9	18.0
30°-40°	2355.4	19.2
40°-50°	2148.8	17.5
50°-60°	1683.4	13.7
60°-70°	1097.2	8.9
70°-80°	486.1	4.0
80°-90°	104.4	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°	4385.9	35.8
0°-40°	6741.2	55.0
0°-60°	10573.4	86.2
0°-90°	12261.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12261.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6246	6246	6246	6246	6246	
5°	6137	6130	6130	6123	6123	583
15°	5740	5740	5682	5625	5603	1614
25°	4975	4946	4866	4693	4563	2284
35°	4036	4007	3812	3524	3437	2523
45°	3098	3032	2773	2542	2440	2386
55°	2152	2087	1892	1668	1581	1930
65°	1278	1206	1090	1112	924	1259
75°	513	476	448	426	469	549
85°	72	79	87	94	101	100
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6245.6	6245.6	6245.6	6245.6	6245.6
2.5°	6202.3	6202.3	6202.3	6195.0	6195.0
5°	6137.3	6130.1	6130.1	6122.8	6122.8
7.5°	6086.7	6079.5	6072.3	6065.1	6050.6
10°	6014.5	6014.5	6007.3	5971.2	5964.0
12.5°	5899.0	5891.8	5862.9	5812.4	5797.9
15°	5740.2	5740.2	5682.4	5624.6	5603.0
17.5°	5566.9	5559.7	5487.5	5429.7	5400.8
20°	5379.1	5364.7	5292.5	5198.6	5148.1
22.5°	5169.8	5169.8	5083.1	4960.4	4909.8
25°	4974.8	4945.9	4866.5	4693.2	4563.3
27.5°	4751.0	4707.7	4621.0	4375.5	4223.9
30°	4505.5	4483.8	4361.1	4043.4	3927.9
32.5°	4274.4	4238.3	4108.4	3776.2	3682.4
35°	4036.2	4007.3	3812.3	3523.5	3436.9
37.5°	3797.9	3761.8	3516.3	3285.3	3176.9
40°	3559.6	3516.3	3249.2	3039.8	2924.2
42.5°	3335.8	3278.0	3018.1	2794.3	2664.3
45°	3097.5	3032.5	2772.6	2541.6	2440.5
47.5°	2859.3	2801.5	2563.2	2324.9	2209.4
50°	2606.5	2556.0	2339.4	2101.1	1978.4
52.5°	2397.2	2317.7	2108.3	1870.1	1769.0
55°	2151.7	2086.7	1891.7	1667.9	1581.3
57.5°	1927.8	1862.8	1682.3	1472.9	1400.7
60°	1718.4	1624.6	1472.9	1292.4	1234.7
62.5°	1487.4	1415.2	1285.2	1133.6	1205.8
65°	1278.0	1205.8	1090.3	1111.9	924.2
67.5°	1046.9	1010.8	909.8	808.7	779.8
70°	852.0	808.7	772.6	664.3	635.4
72.5°	678.7	635.4	584.8	527.1	505.4
75°	512.6	476.5	447.7	426.0	469.3
77.5°	353.8	339.4	317.7	296.0	288.8
80°	231.1	223.8	216.6	209.4	202.2
82.5°	137.2	137.2	137.2	137.2	137.2
85°	72.2	79.4	86.6	93.9	101.1
87.5°	43.3	43.3	50.5	57.8	65.0
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)