

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: P546774

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-93-97-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: P546774
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-LD4-2HI-50-UNV-93-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

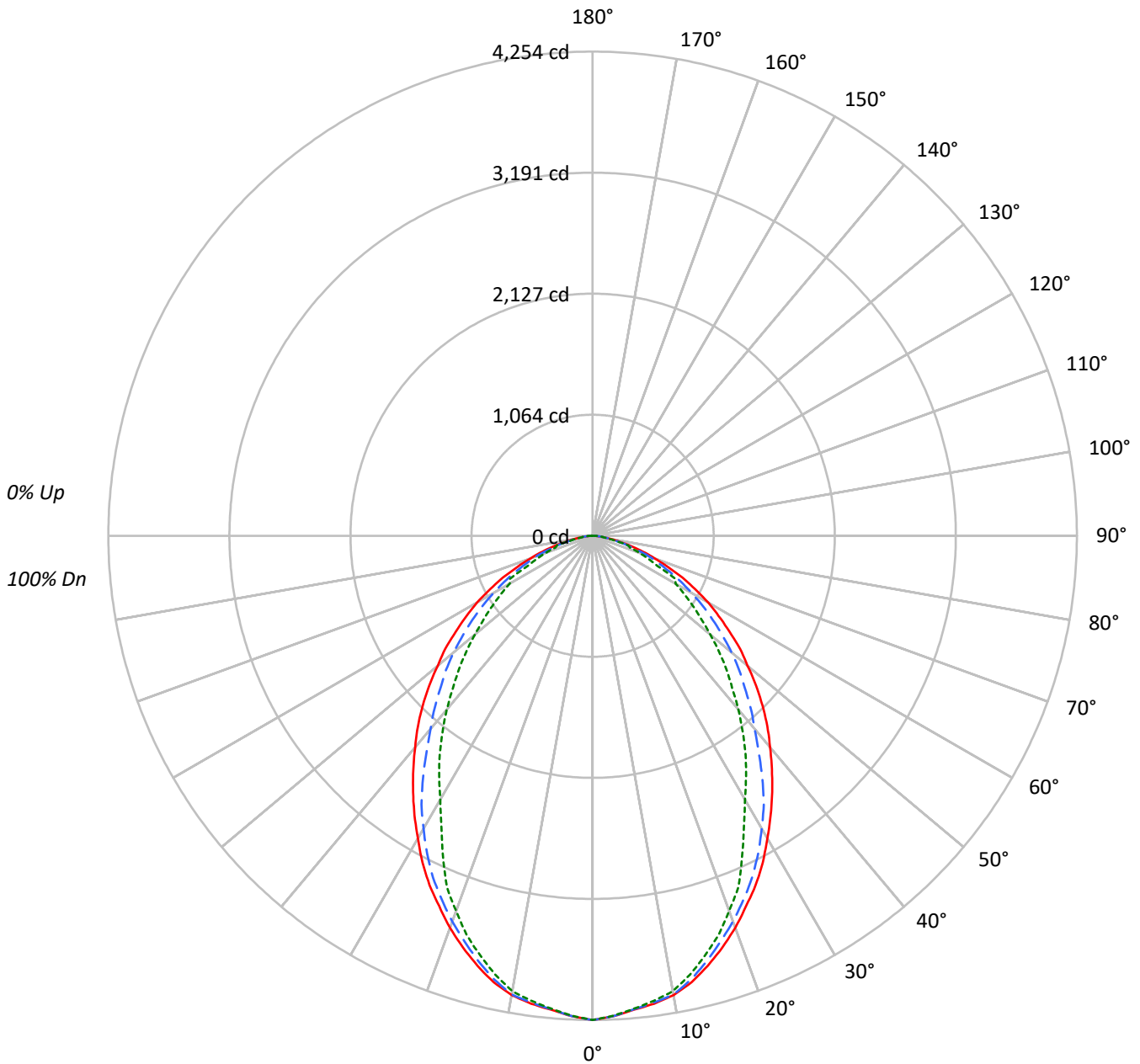
Lumens per Lamp: N/A
Luminaire Lumens: 8352.0 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V): NR
Input Current (A_{in}): 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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5724	5724	5724
5°	5646	5640	5633
10°	5598	5591	5551
15°	5447	5392	5316
20°	5247	5162	5021
25°	5031	4921	4615
30°	4768	4615	4157
35°	4516	4266	3845
40°	4259	3887	3499
45°	4015	3594	3163
50°	3716	3336	2821
55°	3438	3023	2527
60°	3150	2700	2263
65°	2772	2365	2004
70°	2283	2070	1703
75°	1815	1585	1662
80°	1220	1144	1067
85°	760	911	1064



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	396.0	4.7
10°-20°	1086.9	13.0
20°-30°	1504.7	18.0
30°-40°	1604.4	19.2
40°-50°	1463.7	17.5
50°-60°	1146.7	13.7
60°-70°	747.4	8.9
70°-80°	331.1	4.0
80°-90°	71.1	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°	2987.6	35.8
0°-40°	4592.0	55.0
0°-60°	7202.4	86.2
0°-90°	8352.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8352.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4254	4254	4254	4254	4254	
5°	4181	4176	4176	4171	4171	397
15°	3910	3910	3871	3831	3817	1099
25°	3389	3369	3315	3197	3108	1556
35°	2749	2730	2597	2400	2341	1719
45°	2110	2066	1889	1731	1662	1625
55°	1466	1421	1289	1136	1077	1315
65°	871	821	743	757	630	858
75°	349	325	305	290	320	374
85°	49	54	59	64	69	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4254.4	4254.4	4254.4	4254.4	4254.4
2.5°	4224.9	4224.9	4224.9	4220.0	4220.0
5°	4180.6	4175.7	4175.7	4170.8	4170.8
7.5°	4146.2	4141.3	4136.4	4131.4	4121.6
10°	4097.0	4097.0	4092.1	4067.5	4062.6
12.5°	4018.3	4013.4	3993.7	3959.3	3949.5
15°	3910.1	3910.1	3870.8	3831.4	3816.7
17.5°	3792.1	3787.2	3738.0	3698.6	3678.9
20°	3664.2	3654.4	3605.2	3541.2	3506.8
22.5°	3521.6	3521.6	3462.5	3378.9	3344.5
25°	3388.8	3369.1	3315.0	3196.9	3108.4
27.5°	3236.3	3206.8	3147.8	2980.5	2877.3
30°	3069.1	3054.3	2970.7	2754.3	2675.6
32.5°	2911.7	2887.1	2798.6	2572.3	2508.4
35°	2749.4	2729.7	2596.9	2400.2	2341.1
37.5°	2587.1	2562.5	2395.3	2237.9	2164.1
40°	2424.8	2395.3	2213.3	2070.6	1991.9
42.5°	2272.3	2232.9	2055.9	1903.4	1814.9
45°	2110.0	2065.7	1888.7	1731.3	1662.4
47.5°	1947.7	1908.3	1746.0	1583.7	1505.0
50°	1775.5	1741.1	1593.6	1431.2	1347.6
52.5°	1632.9	1578.8	1436.2	1273.9	1205.0
55°	1465.7	1421.4	1288.6	1136.1	1077.1
57.5°	1313.2	1268.9	1146.0	1003.3	954.2
60°	1170.6	1106.6	1003.3	880.4	841.0
62.5°	1013.2	964.0	875.5	772.2	821.4
65°	870.6	821.4	742.7	757.4	629.6
67.5°	713.2	688.6	619.7	550.9	531.2
70°	580.4	550.9	526.3	452.5	432.8
72.5°	462.3	432.8	398.4	359.0	344.3
75°	349.2	324.6	304.9	290.2	319.7
77.5°	241.0	231.2	216.4	201.7	196.7
80°	157.4	152.5	147.6	142.6	137.7
82.5°	93.4	93.4	93.4	93.4	93.4
85°	49.2	54.1	59.0	63.9	68.9
87.5°	29.5	29.5	34.4	39.3	44.3
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)