

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: P546545

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-93-86-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: P546545
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-LD4-1LO-40-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

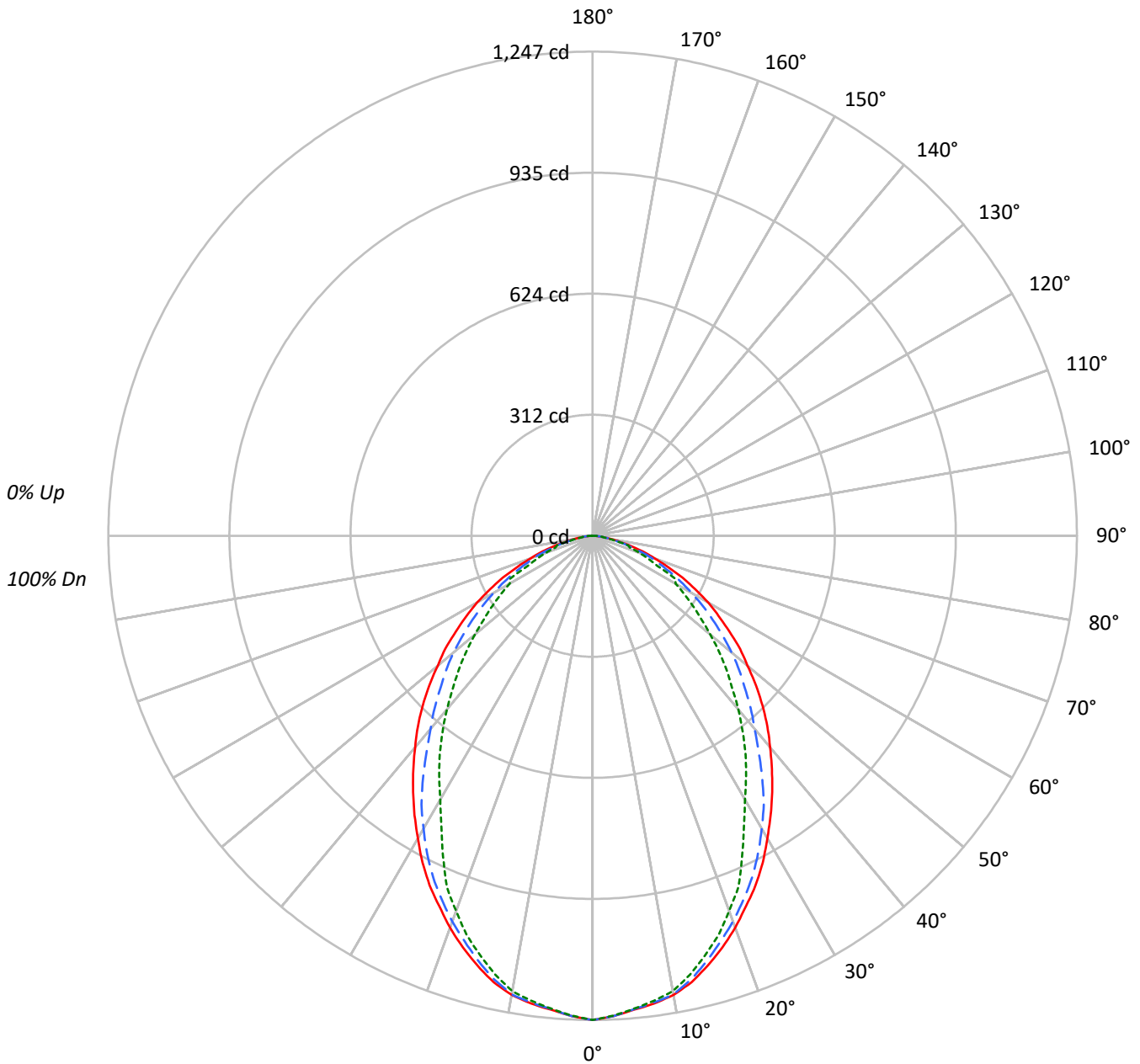
Lumens per Lamp: N/A
Luminaire Lumens: 2448.0 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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				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°	1678	1678	1678
5°	1655	1653	1651
10°	1641	1639	1627
15°	1596	1580	1558
20°	1538	1513	1472
25°	1475	1442	1353
30°	1398	1353	1218
35°	1324	1250	1127
40°	1248	1139	1025
45°	1177	1053	927
50°	1089	978	827
55°	1008	886	741
60°	923	791	663
65°	812	693	587
70°	669	607	499
75°	532	465	487
80°	357	335	313
85°	222	267	312



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.1	4.7
10°-20°	318.6	13.0
20°-30°	441.0	18.0
30°-40°	470.3	19.2
40°-50°	429.0	17.5
50°-60°	336.1	13.7
60°-70°	219.1	8.9
70°-80°	97.1	4.0
80°-90°	20.8	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°	875.7	35.8
0°-40°	1345.9	55.0
0°-60°	2111.1	86.2
0°-90°	2448.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2448.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1247	1247	1247	1247	1247	
5°	1225	1224	1224	1222	1222	116
15°	1146	1146	1134	1123	1119	322
25°	993	988	972	937	911	456
35°	806	800	761	704	686	504
45°	618	606	554	507	487	476
55°	430	417	378	333	316	385
65°	255	241	218	222	184	251
75°	102	95	89	85	94	110
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1247.0	1247.0	1247.0	1247.0	1247.0
2.5°	1238.3	1238.3	1238.3	1236.9	1236.9
5°	1225.4	1223.9	1223.9	1222.5	1222.5
7.5°	1215.3	1213.8	1212.4	1210.9	1208.1
10°	1200.8	1200.8	1199.4	1192.2	1190.8
12.5°	1177.8	1176.3	1170.6	1160.5	1157.6
15°	1146.1	1146.1	1134.5	1123.0	1118.7
17.5°	1111.5	1110.0	1095.6	1084.1	1078.3
20°	1074.0	1071.1	1056.7	1037.9	1027.9
22.5°	1032.2	1032.2	1014.9	990.4	980.3
25°	993.3	987.5	971.6	937.0	911.1
27.5°	948.6	939.9	922.6	873.6	843.3
30°	899.6	895.2	870.7	807.3	784.2
32.5°	853.4	846.2	820.3	754.0	735.2
35°	805.9	800.1	761.2	703.5	686.2
37.5°	758.3	751.1	702.1	655.9	634.3
40°	710.7	702.1	648.7	606.9	583.8
42.5°	666.0	654.5	602.6	557.9	531.9
45°	618.4	605.5	553.6	507.4	487.3
47.5°	570.9	559.3	511.8	464.2	441.1
50°	520.4	510.3	467.1	419.5	395.0
52.5°	478.6	462.8	420.9	373.4	353.2
55°	429.6	416.6	377.7	333.0	315.7
57.5°	384.9	371.9	335.9	294.1	279.7
60°	343.1	324.4	294.1	258.0	246.5
62.5°	297.0	282.6	256.6	226.3	240.7
65°	255.2	240.7	217.7	222.0	184.5
67.5°	209.0	201.8	181.6	161.5	155.7
70°	170.1	161.5	154.3	132.6	126.9
72.5°	135.5	126.9	116.8	105.2	100.9
75°	102.4	95.1	89.4	85.1	93.7
77.5°	70.6	67.8	63.4	59.1	57.7
80°	46.1	44.7	43.2	41.8	40.4
82.5°	27.4	27.4	27.4	27.4	27.4
85°	14.4	15.9	17.3	18.7	20.2
87.5°	8.6	8.6	10.1	11.5	13.0
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)