

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: P546595

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-81-88-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: P546595
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-LD4-1STD-35-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

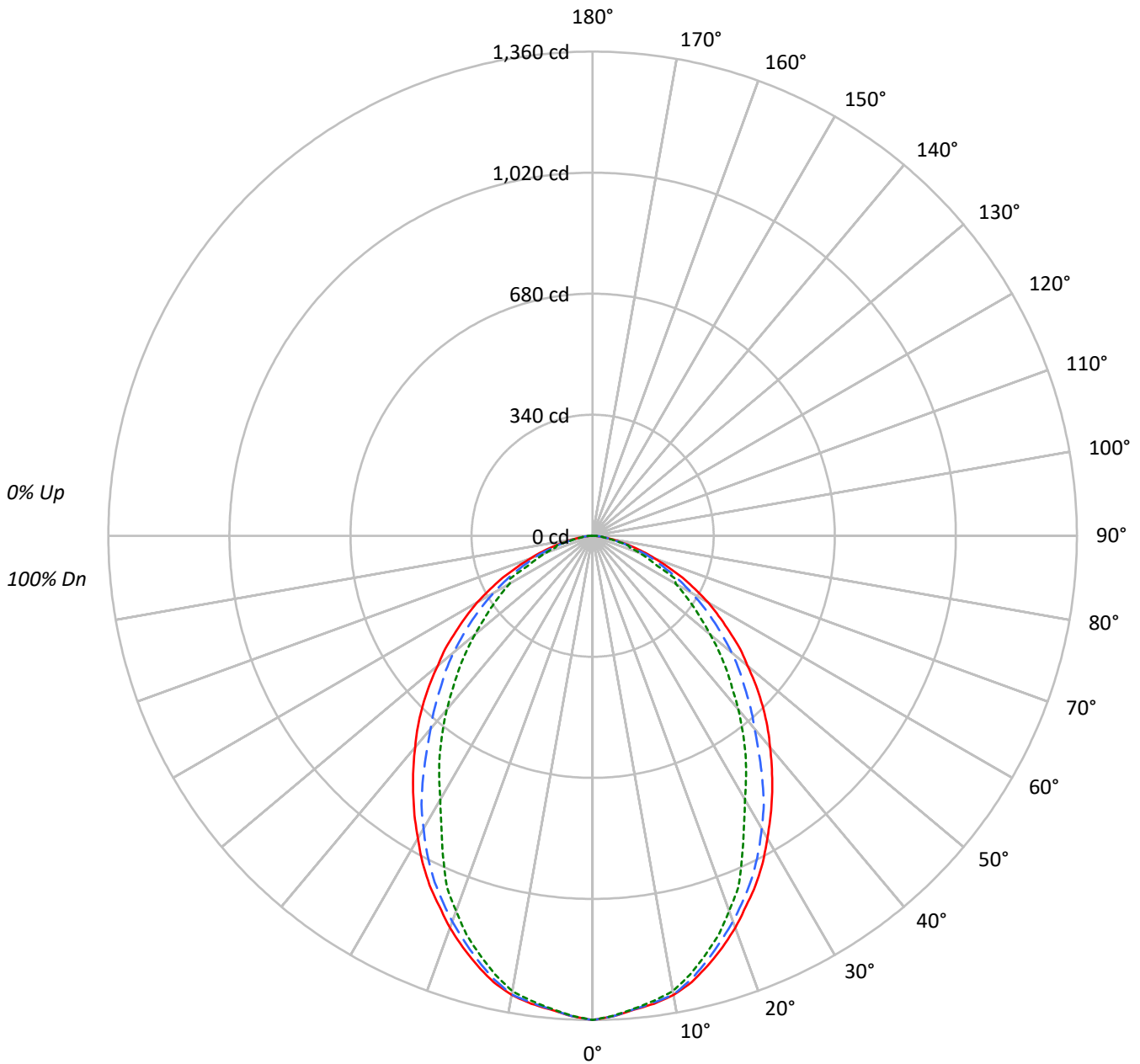
Lumens per Lamp: N/A
Luminaire Lumens: 2670.0 lumens
Efficiency: N/A
Efficacy: 80.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	1830	1830	1830
5°	1805	1803	1801
10°	1789	1787	1774
15°	1741	1724	1700
20°	1677	1650	1605
25°	1608	1573	1475
30°	1524	1475	1329
35°	1444	1364	1229
40°	1362	1243	1118
45°	1283	1149	1011
50°	1188	1066	902
55°	1099	966	808
60°	1007	863	724
65°	886	756	641
70°	730	662	544
75°	580	507	531
80°	390	366	341
85°	242	292	340



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.6	4.7
10°-20°	347.5	13.0
20°-30°	481.0	18.0
30°-40°	512.9	19.2
40°-50°	467.9	17.5
50°-60°	366.6	13.7
60°-70°	238.9	8.9
70°-80°	105.9	4.0
80°-90°	22.7	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°	955.1	35.8
0°-40°	1468.0	55.0
0°-60°	2302.5	86.2
0°-90°	2670.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2670.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1336	1335	1335	1333	1333	127
15°	1250	1250	1237	1225	1220	351
25°	1083	1077	1060	1022	994	497
35°	879	873	830	767	748	549
45°	674	660	604	554	531	520
55°	469	454	412	363	344	420
65°	278	263	237	242	201	274
75°	112	104	98	93	102	120
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1350.6	1350.6	1350.6	1349.1	1349.1
5°	1336.5	1334.9	1334.9	1333.3	1333.3
7.5°	1325.5	1323.9	1322.3	1320.8	1317.6
10°	1309.7	1309.7	1308.2	1300.3	1298.7
12.5°	1284.6	1283.0	1276.7	1265.7	1262.6
15°	1250.0	1250.0	1237.4	1224.8	1220.1
17.5°	1212.3	1210.7	1195.0	1182.4	1176.1
20°	1171.4	1168.2	1152.5	1132.1	1121.1
22.5°	1125.8	1125.8	1106.9	1080.2	1069.2
25°	1083.3	1077.0	1059.7	1022.0	993.7
27.5°	1034.6	1025.2	1006.3	952.8	919.8
30°	981.1	976.4	949.7	880.5	855.3
32.5°	930.8	923.0	894.7	822.3	801.9
35°	878.9	872.6	830.2	767.3	748.4
37.5°	827.0	819.2	765.7	715.4	691.8
40°	775.2	765.7	707.5	661.9	636.8
42.5°	726.4	713.8	657.2	608.5	580.2
45°	674.5	660.4	603.8	553.5	531.4
47.5°	622.6	610.1	558.2	506.3	481.1
50°	567.6	556.6	509.4	457.5	430.8
52.5°	522.0	504.7	459.1	407.2	385.2
55°	468.6	454.4	411.9	363.2	344.3
57.5°	419.8	405.7	366.4	320.8	305.0
60°	374.2	353.8	320.8	281.4	268.9
62.5°	323.9	308.2	279.9	246.9	262.6
65°	278.3	262.6	237.4	242.1	201.3
67.5°	228.0	220.1	198.1	176.1	169.8
70°	185.5	176.1	168.2	144.7	138.4
72.5°	147.8	138.4	127.4	114.8	110.1
75°	111.6	103.8	97.5	92.8	102.2
77.5°	77.0	73.9	69.2	64.5	62.9
80°	50.3	48.7	47.2	45.6	44.0
82.5°	29.9	29.9	29.9	29.9	29.9
85°	15.7	17.3	18.9	20.4	22.0
87.5°	9.4	9.4	11.0	12.6	14.2
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)