

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: P546631

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-82-84-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: P546631
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-40-UNV-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

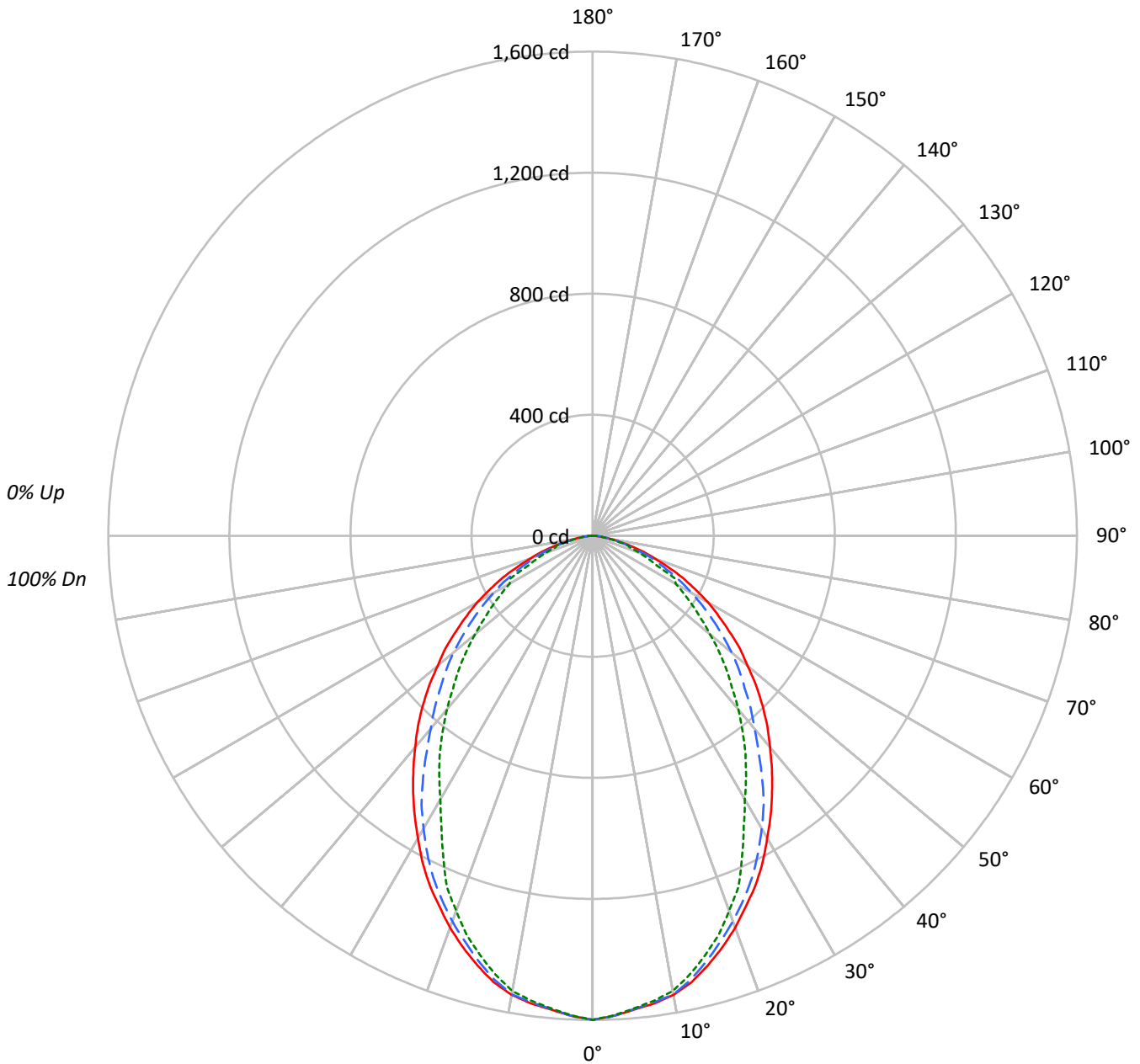
Lumens per Lamp: N/A
Luminaire Lumens: 3140.0 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2152	2152	2152
5°	2123	2120	2118
10°	2104	2102	2087
15°	2048	2027	1999
20°	1973	1941	1888
25°	1891	1850	1735
30°	1793	1735	1563
35°	1698	1604	1446
40°	1601	1462	1315
45°	1509	1351	1189
50°	1397	1254	1061
55°	1293	1137	950
60°	1184	1015	851
65°	1042	889	754
70°	858	779	640
75°	683	596	625
80°	459	430	401
85°	286	343	400



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.9	4.7
10°-20°	408.6	13.0
20°-30°	565.7	18.0
30°-40°	603.2	19.2
40°-50°	550.3	17.5
50°-60°	431.1	13.7
60°-70°	281.0	8.9
70°-80°	124.5	4.0
80°-90°	26.7	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°	1123.2	35.8
0°-40°	1726.4	55.0
0°-60°	2707.8	86.2
0°-90°	3140.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3140.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1600	1600	1600	1600	1600	
5°	1572	1570	1570	1568	1568	149
15°	1470	1470	1455	1440	1435	413
25°	1274	1267	1246	1202	1169	585
35°	1034	1026	976	902	880	646
45°	793	777	710	651	625	611
55°	551	534	484	427	405	494
65°	327	309	279	285	237	323
75°	131	122	115	109	120	141
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1599.5	1599.5	1599.5	1599.5	1599.5
2.5°	1588.4	1588.4	1588.4	1586.5	1586.5
5°	1571.7	1569.9	1569.9	1568.0	1568.0
7.5°	1558.8	1556.9	1555.1	1553.2	1549.5
10°	1540.3	1540.3	1538.5	1529.2	1527.4
12.5°	1510.7	1508.9	1501.5	1488.5	1484.8
15°	1470.0	1470.0	1455.2	1440.5	1434.9
17.5°	1425.7	1423.8	1405.3	1390.5	1383.1
20°	1377.6	1373.9	1355.4	1331.4	1318.4
22.5°	1324.0	1324.0	1301.8	1270.3	1257.4
25°	1274.0	1266.6	1246.3	1201.9	1168.6
27.5°	1216.7	1205.6	1183.4	1120.6	1081.7
30°	1153.8	1148.3	1116.9	1035.5	1005.9
32.5°	1094.7	1085.4	1052.1	967.1	943.0
35°	1033.6	1026.3	976.3	902.4	880.2
37.5°	972.6	963.4	900.5	841.3	813.6
40°	911.6	900.5	832.1	778.5	748.9
42.5°	854.3	839.5	772.9	715.6	682.3
45°	793.3	776.6	710.1	650.9	625.0
47.5°	732.2	717.5	656.4	595.4	565.8
50°	667.5	654.6	599.1	538.1	506.7
52.5°	613.9	593.6	539.9	478.9	453.0
55°	551.0	534.4	484.5	427.1	405.0
57.5°	493.7	477.1	430.8	377.2	358.7
60°	440.1	416.0	377.2	331.0	316.2
62.5°	380.9	362.4	329.1	290.3	308.8
65°	327.3	308.8	279.2	284.8	236.7
67.5°	268.1	258.9	233.0	207.1	199.7
70°	218.2	207.1	197.9	170.1	162.7
72.5°	173.8	162.7	149.8	135.0	129.4
75°	131.3	122.0	114.6	109.1	120.2
77.5°	90.6	86.9	81.4	75.8	74.0
80°	59.2	57.3	55.5	53.6	51.8
82.5°	35.1	35.1	35.1	35.1	35.1
85°	18.5	20.3	22.2	24.0	25.9
87.5°	11.1	11.1	12.9	14.8	16.6
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)