

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: P546546

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-93-87-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: P546546
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-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

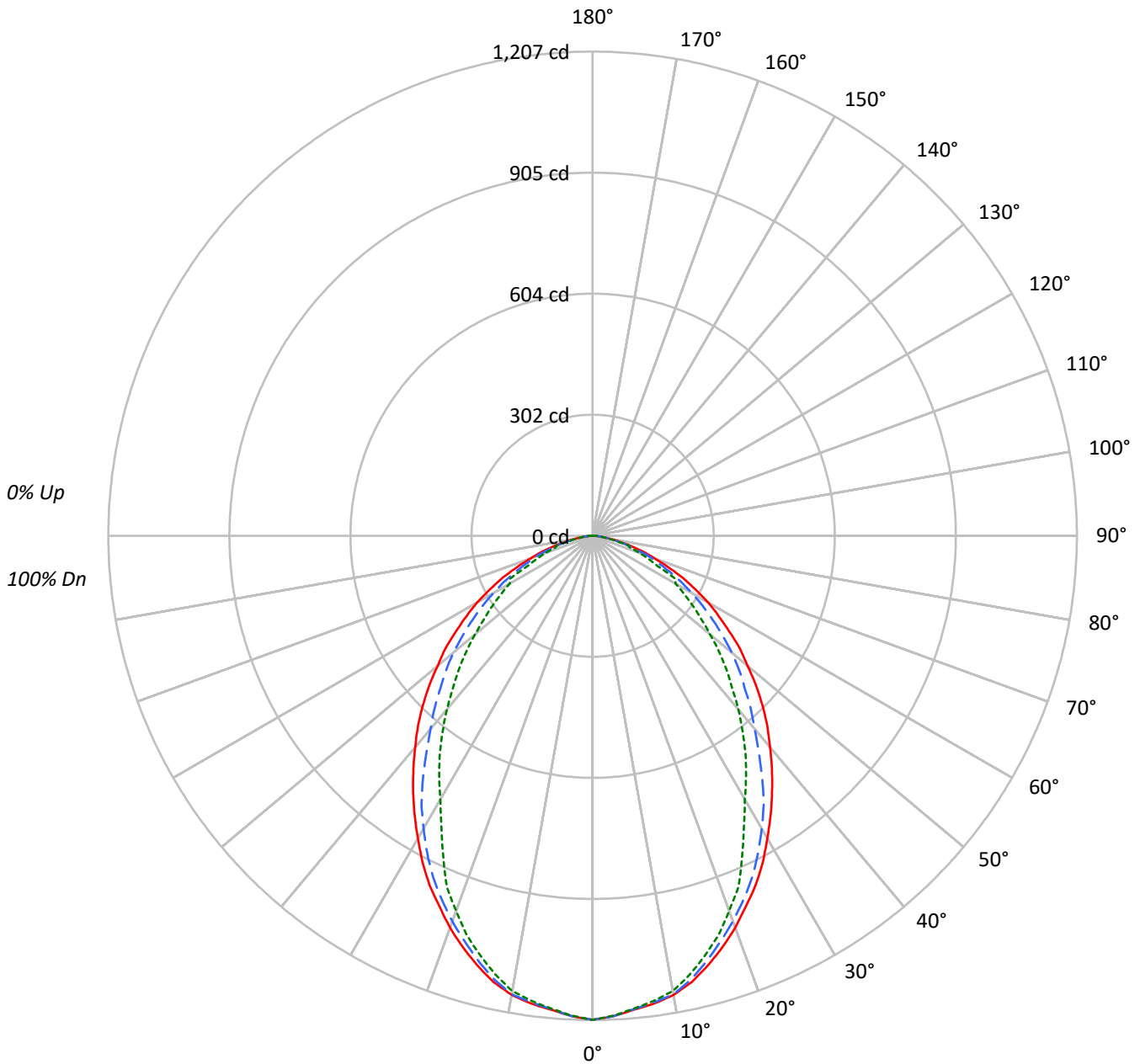
Lumens per Lamp: N/A
Luminaire Lumens: 2369.0 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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									
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°	1624	1624	1624
5°	1602	1600	1598
10°	1588	1586	1574
15°	1545	1529	1508
20°	1488	1464	1424
25°	1427	1396	1309
30°	1352	1309	1179
35°	1281	1210	1091
40°	1208	1103	992
45°	1139	1019	897
50°	1054	946	800
55°	975	857	717
60°	893	766	642
65°	786	671	569
70°	648	587	483
75°	515	450	472
80°	346	325	303
85°	216	258	301



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.3	4.7
10°-20°	308.3	13.0
20°-30°	426.8	18.0
30°-40°	455.1	19.2
40°-50°	415.2	17.5
50°-60°	325.3	13.7
60°-70°	212.0	8.9
70°-80°	93.9	4.0
80°-90°	20.2	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°	847.4	35.8
0°-40°	1302.5	55.0
0°-60°	2042.9	86.2
0°-90°	2369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2369.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1207	1207	1207	1207	1207	
5°	1186	1184	1184	1183	1183	113
15°	1109	1109	1098	1087	1083	312
25°	961	956	940	907	882	441
35°	780	774	737	681	664	488
45°	598	586	536	491	472	461
55°	416	403	366	322	306	373
65°	247	233	211	215	179	243
75°	99	92	86	82	91	106
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1206.7	1206.7	1206.7	1206.7	1206.7
2.5°	1198.4	1198.4	1198.4	1197.0	1197.0
5°	1185.8	1184.4	1184.4	1183.0	1183.0
7.5°	1176.0	1174.7	1173.3	1171.9	1169.1
10°	1162.1	1162.1	1160.7	1153.7	1152.3
12.5°	1139.8	1138.4	1132.8	1123.0	1120.2
15°	1109.1	1109.1	1097.9	1086.8	1082.6
17.5°	1075.6	1074.2	1060.3	1049.1	1043.5
20°	1039.3	1036.5	1022.6	1004.5	994.7
22.5°	998.9	998.9	982.1	958.4	948.6
25°	961.2	955.6	940.3	906.8	881.7
27.5°	918.0	909.6	892.8	845.4	816.1
30°	870.5	866.3	842.6	781.2	758.9
32.5°	825.9	818.9	793.8	729.6	711.5
35°	779.8	774.3	736.6	680.8	664.1
37.5°	733.8	726.8	679.4	634.8	613.8
40°	687.8	679.4	627.8	587.3	565.0
42.5°	644.5	633.4	583.1	539.9	514.8
45°	598.5	585.9	535.7	491.1	471.5
47.5°	552.4	541.3	495.3	449.2	426.9
50°	503.6	493.9	452.0	406.0	382.2
52.5°	463.2	447.8	407.4	361.3	341.8
55°	415.7	403.2	365.5	322.3	305.5
57.5°	372.5	359.9	325.1	284.6	270.6
60°	332.0	313.9	284.6	249.7	238.6
62.5°	287.4	273.4	248.3	219.0	233.0
65°	246.9	233.0	210.7	214.8	178.6
67.5°	202.3	195.3	175.8	156.2	150.7
70°	164.6	156.2	149.3	128.3	122.8
72.5°	131.1	122.8	113.0	101.8	97.7
75°	99.1	92.1	86.5	82.3	90.7
77.5°	68.4	65.6	61.4	57.2	55.8
80°	44.6	43.2	41.9	40.5	39.1
82.5°	26.5	26.5	26.5	26.5	26.5
85°	14.0	15.3	16.7	18.1	19.5
87.5°	8.4	8.4	9.8	11.2	12.6
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)