

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: P546639

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-93-84-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: P546639
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-93-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

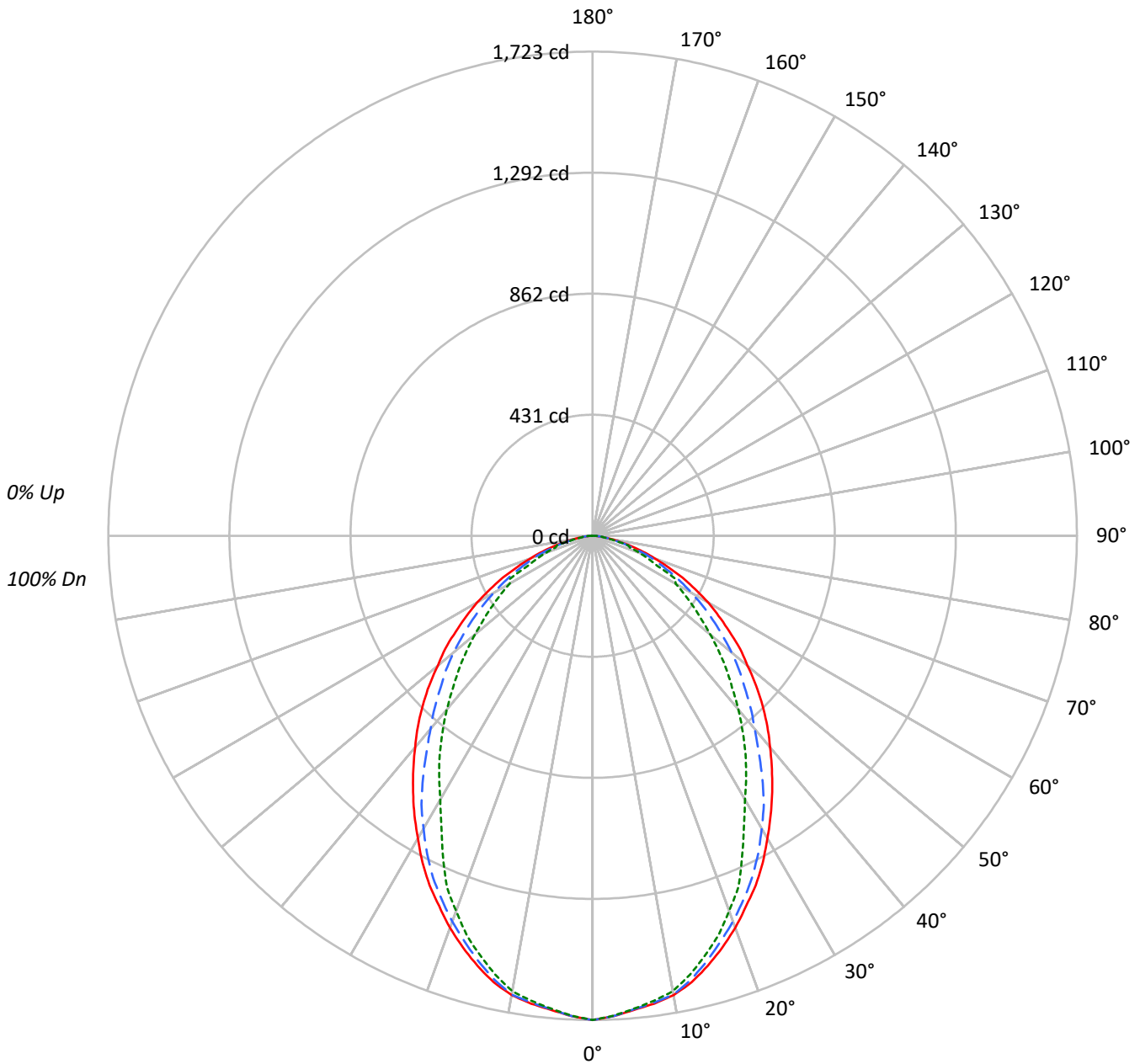
Lumens per Lamp: N/A
Luminaire Lumens: 3383.0 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2319	2319	2319
5°	2287	2284	2282
10°	2267	2265	2248
15°	2206	2184	2153
20°	2125	2091	2034
25°	2038	1993	1869
30°	1931	1869	1684
35°	1829	1728	1558
40°	1725	1575	1417
45°	1626	1456	1281
50°	1505	1351	1143
55°	1393	1225	1023
60°	1276	1094	917
65°	1123	958	812
70°	925	839	690
75°	735	642	673
80°	494	463	432
85°	307	369	431



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.4	4.7
10°-20°	440.2	13.0
20°-30°	609.5	18.0
30°-40°	649.9	19.2
40°-50°	592.9	17.5
50°-60°	464.5	13.7
60°-70°	302.7	8.9
70°-80°	134.1	4.0
80°-90°	28.8	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°	1210.1	35.8
0°-40°	1860.0	55.0
0°-60°	2917.4	86.2
0°-90°	3383.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3383.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1693	1691	1691	1689	1689	161
15°	1584	1584	1568	1552	1546	445
25°	1373	1365	1343	1295	1259	630
35°	1114	1106	1052	972	948	696
45°	855	837	765	701	673	658
55°	594	576	522	460	436	532
65°	353	333	301	307	255	348
75°	141	132	124	118	130	152
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1723.3	1723.3	1723.3	1723.3	1723.3
2.5°	1711.3	1711.3	1711.3	1709.3	1709.3
5°	1693.4	1691.4	1691.4	1689.4	1689.4
7.5°	1679.4	1677.4	1675.4	1673.4	1669.5
10°	1659.5	1659.5	1657.5	1647.6	1645.6
12.5°	1627.6	1625.6	1617.7	1603.7	1599.7
15°	1583.8	1583.8	1567.9	1551.9	1545.9
17.5°	1536.0	1534.0	1514.1	1498.1	1490.2
20°	1484.2	1480.2	1460.3	1434.4	1420.4
22.5°	1426.4	1426.4	1402.5	1368.6	1354.7
25°	1372.6	1364.7	1342.7	1294.9	1259.1
27.5°	1310.9	1298.9	1275.0	1207.3	1165.4
30°	1243.1	1237.2	1203.3	1115.6	1083.8
32.5°	1179.4	1169.4	1133.6	1041.9	1016.0
35°	1113.6	1105.7	1051.9	972.2	948.3
37.5°	1047.9	1037.9	970.2	906.5	876.6
40°	982.2	970.2	896.5	838.7	806.8
42.5°	920.4	904.5	832.7	771.0	735.1
45°	854.7	836.7	765.0	701.3	673.4
47.5°	788.9	773.0	707.2	641.5	609.6
50°	719.2	705.2	645.5	579.7	545.9
52.5°	661.4	639.5	581.7	516.0	488.1
55°	593.7	575.7	522.0	460.2	436.3
57.5°	531.9	514.0	464.2	406.4	386.5
60°	474.1	448.2	406.4	356.6	340.7
62.5°	410.4	390.5	354.6	312.8	332.7
65°	352.6	332.7	300.8	306.8	255.0
67.5°	288.9	278.9	251.0	223.1	215.2
70°	235.1	223.1	213.2	183.3	175.3
72.5°	187.3	175.3	161.4	145.4	139.5
75°	141.4	131.5	123.5	117.5	129.5
77.5°	97.6	93.6	87.7	81.7	79.7
80°	63.8	61.8	59.8	57.8	55.8
82.5°	37.9	37.9	37.9	37.9	37.9
85°	19.9	21.9	23.9	25.9	27.9
87.5°	12.0	12.0	13.9	15.9	17.9
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)