

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: P546644

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-93-94-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: P546644
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-93-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

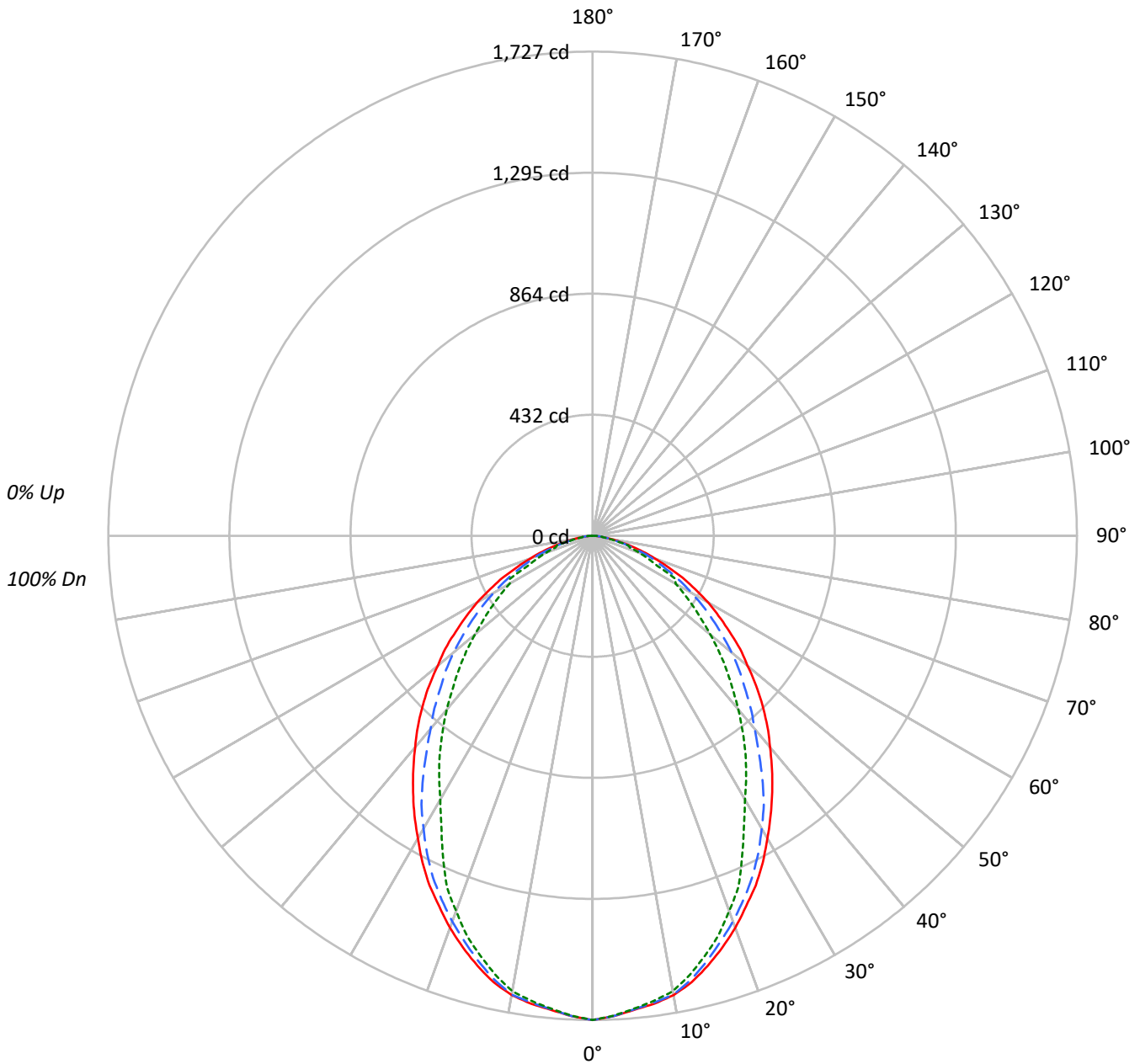
Lumens per Lamp: N/A
Luminaire Lumens: 3391.0 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	2324	2324	2324
5°	2293	2290	2287
10°	2273	2270	2254
15°	2211	2189	2159
20°	2130	2096	2039
25°	2043	1998	1874
30°	1936	1874	1688
35°	1834	1732	1561
40°	1729	1578	1420
45°	1630	1459	1284
50°	1509	1354	1145
55°	1396	1227	1026
60°	1279	1096	919
65°	1125	960	814
70°	927	841	691
75°	737	644	675
80°	495	464	433
85°	309	371	432



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.8	4.7
10°-20°	441.3	13.0
20°-30°	610.9	18.0
30°-40°	651.4	19.2
40°-50°	594.3	17.5
50°-60°	465.6	13.7
60°-70°	303.4	8.9
70°-80°	134.4	4.0
80°-90°	28.9	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°	1213.0	35.8
0°-40°	1864.4	55.0
0°-60°	2924.3	86.2
0°-90°	3391.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3391.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1727	1727	1727	1727	1727	
5°	1697	1695	1695	1693	1693	161
15°	1588	1588	1572	1556	1550	446
25°	1376	1368	1346	1298	1262	632
35°	1116	1108	1054	974	950	698
45°	857	839	767	703	675	660
55°	595	577	523	461	437	534
65°	354	334	302	308	256	348
75°	142	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°	1727.3	1727.3	1727.3	1727.3	1727.3
2.5°	1715.3	1715.3	1715.3	1713.4	1713.4
5°	1697.4	1695.4	1695.4	1693.4	1693.4
7.5°	1683.4	1681.4	1679.4	1677.4	1673.4
10°	1663.4	1663.4	1661.4	1651.4	1649.5
12.5°	1631.5	1629.5	1621.5	1607.5	1603.5
15°	1587.5	1587.5	1571.6	1555.6	1549.6
17.5°	1539.6	1537.6	1517.7	1501.7	1493.7
20°	1487.7	1483.7	1463.7	1437.8	1423.8
22.5°	1429.8	1429.8	1405.8	1371.9	1357.9
25°	1375.9	1367.9	1345.9	1298.0	1262.0
27.5°	1314.0	1302.0	1278.0	1210.1	1168.2
30°	1246.1	1240.1	1206.1	1118.3	1086.3
32.5°	1182.2	1172.2	1136.2	1044.4	1018.4
35°	1116.3	1108.3	1054.4	974.5	950.5
37.5°	1050.4	1040.4	972.5	908.6	878.6
40°	984.5	972.5	898.6	840.7	808.7
42.5°	922.6	906.6	834.7	772.8	736.9
45°	856.7	838.7	766.8	702.9	675.0
47.5°	790.8	774.8	708.9	643.0	611.1
50°	720.9	706.9	647.0	581.1	547.2
52.5°	663.0	641.0	583.1	517.2	489.2
55°	595.1	577.1	523.2	461.3	437.3
57.5°	533.2	515.2	465.3	407.4	387.4
60°	475.3	449.3	407.4	357.4	341.5
62.5°	411.4	391.4	355.5	313.5	333.5
65°	353.5	333.5	301.5	307.5	255.6
67.5°	289.6	279.6	251.6	223.7	215.7
70°	235.6	223.7	213.7	183.7	175.7
72.5°	187.7	175.7	161.7	145.8	139.8
75°	141.8	131.8	123.8	117.8	129.8
77.5°	97.8	93.9	87.9	81.9	79.9
80°	63.9	61.9	59.9	57.9	55.9
82.5°	37.9	37.9	37.9	37.9	37.9
85°	20.0	22.0	24.0	26.0	28.0
87.5°	12.0	12.0	14.0	16.0	18.0
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)