

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: P545861

Luminaire Tested: **FMR-12-4-LD4-1HI-40-UNV-81-96-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: P545861
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-12-4-LD4-1HI-40-UNV-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

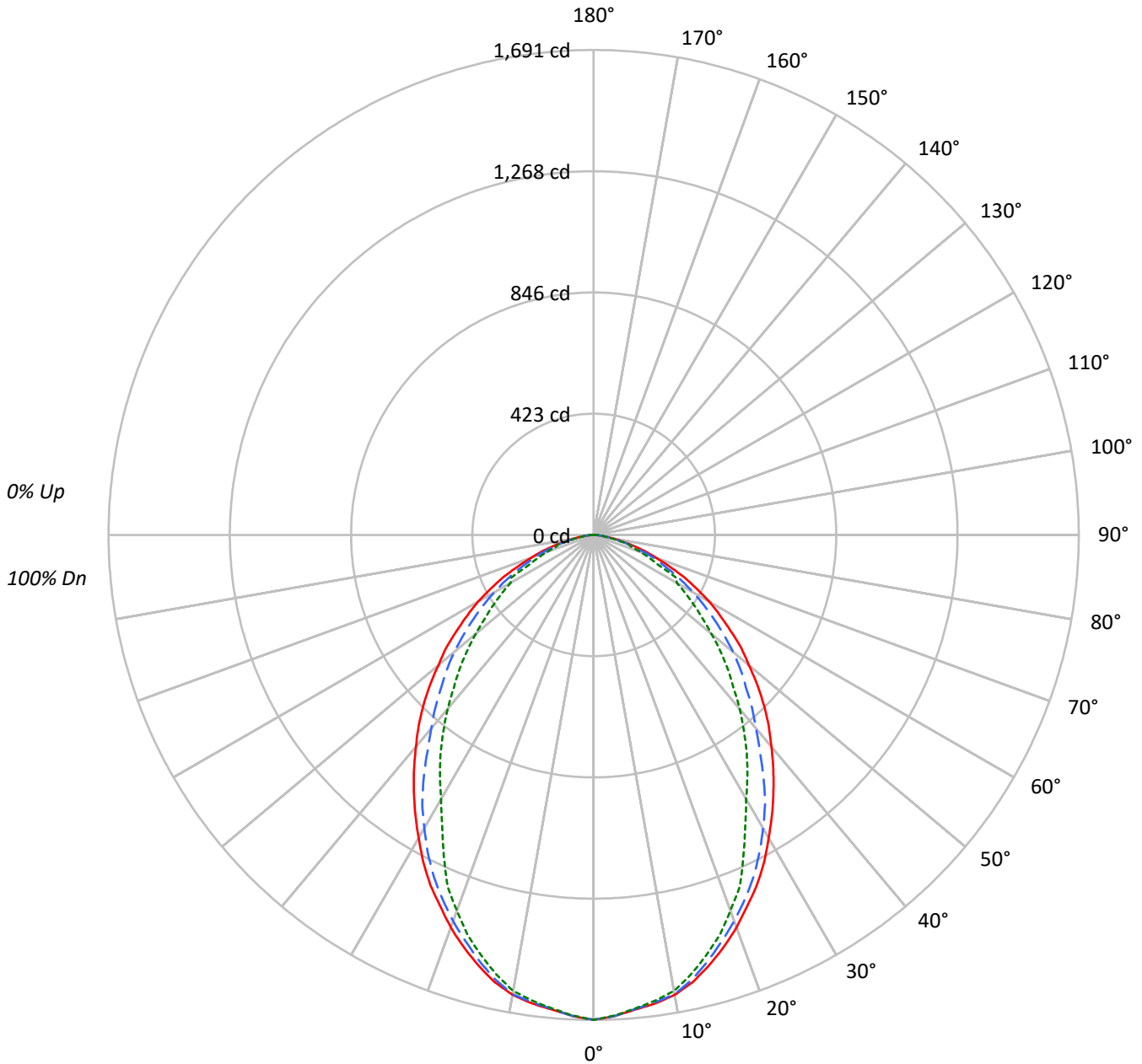
Lumens per Lamp: N/A
Luminaire Lumens: 3319.0 lumens
Efficiency: N/A
Efficacy: 76.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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

TEST NUMBER: P545861

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-81-96-EDD

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°	4550	4550	4550
5°	4488	4482	4477
10°	4449	4444	4411
15°	4329	4285	4225
20°	4170	4103	3991
25°	3999	3911	3668
30°	3790	3668	3304
35°	3589	3390	3056
40°	3385	3090	2781
45°	3191	2856	2514
50°	2954	2651	2242
55°	2732	2403	2008
60°	2504	2146	1799
65°	2202	1879	1593
70°	1814	1645	1353
75°	1443	1260	1320
80°	969	908	848
85°	602	726	846



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.4	4.7
10°-20°	431.9	13.0
20°-30°	597.9	18.0
30°-40°	637.6	19.2
40°-50°	581.7	17.5
50°-60°	455.7	13.7
60°-70°	297.0	8.9
70°-80°	131.6	4.0
80°-90°	28.2	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°	1187.2	35.8
0°-40°	1824.8	55.0
0°-60°	2862.2	86.2
0°-90°	3319.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3319.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1691	1691	1691	1691	1691	
5°	1661	1659	1659	1657	1657	158
15°	1554	1554	1538	1523	1517	437
25°	1347	1339	1317	1270	1235	618
35°	1093	1085	1032	954	930	683
45°	838	821	750	688	661	646
55°	582	565	512	452	428	522
65°	346	326	295	301	250	341
75°	139	129	121	115	127	149
85°	20	22	24	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1690.7	1690.7	1690.7	1690.7	1690.7
2.5°	1678.9	1678.9	1678.9	1677.0	1677.0
5°	1661.3	1659.4	1659.4	1657.4	1657.4
7.5°	1647.7	1645.7	1643.7	1641.8	1637.9
10°	1628.1	1628.1	1626.2	1616.4	1614.4
12.5°	1596.8	1594.9	1587.1	1573.4	1569.5
15°	1553.8	1553.8	1538.2	1522.6	1516.7
17.5°	1506.9	1505.0	1485.4	1469.8	1462.0
20°	1456.1	1452.2	1432.7	1407.2	1393.6
22.5°	1399.4	1399.4	1376.0	1342.8	1329.1
25°	1346.7	1338.8	1317.3	1270.4	1235.3
27.5°	1286.1	1274.3	1250.9	1184.4	1143.4
30°	1219.6	1213.8	1180.5	1094.5	1063.3
32.5°	1157.1	1147.3	1112.1	1022.2	996.8
35°	1092.6	1084.8	1032.0	953.8	930.3
37.5°	1028.1	1018.3	951.8	889.3	860.0
40°	963.6	951.8	879.5	822.9	791.6
42.5°	903.0	887.3	817.0	756.4	721.2
45°	838.5	820.9	750.5	688.0	660.6
47.5°	774.0	758.4	693.9	629.4	598.1
50°	705.6	691.9	633.3	568.8	535.5
52.5°	648.9	627.4	570.7	506.2	478.9
55°	582.4	564.9	512.1	451.5	428.0
57.5°	521.9	504.3	455.4	398.7	379.2
60°	465.2	439.8	398.7	349.9	334.2
62.5°	402.6	383.1	347.9	306.9	326.4
65°	345.9	326.4	295.1	301.0	250.2
67.5°	283.4	273.6	246.3	218.9	211.1
70°	230.6	218.9	209.1	179.8	172.0
72.5°	183.7	172.0	158.3	142.7	136.8
75°	138.8	129.0	121.2	115.3	127.0
77.5°	95.8	91.9	86.0	80.1	78.2
80°	62.5	60.6	58.6	56.7	54.7
82.5°	37.1	37.1	37.1	37.1	37.1
85°	19.5	21.5	23.5	25.4	27.4
87.5°	11.7	11.7	13.7	15.6	17.6
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)