

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: P546261

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-93-96-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: P546261
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-LD4-2LO-40-UNV-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

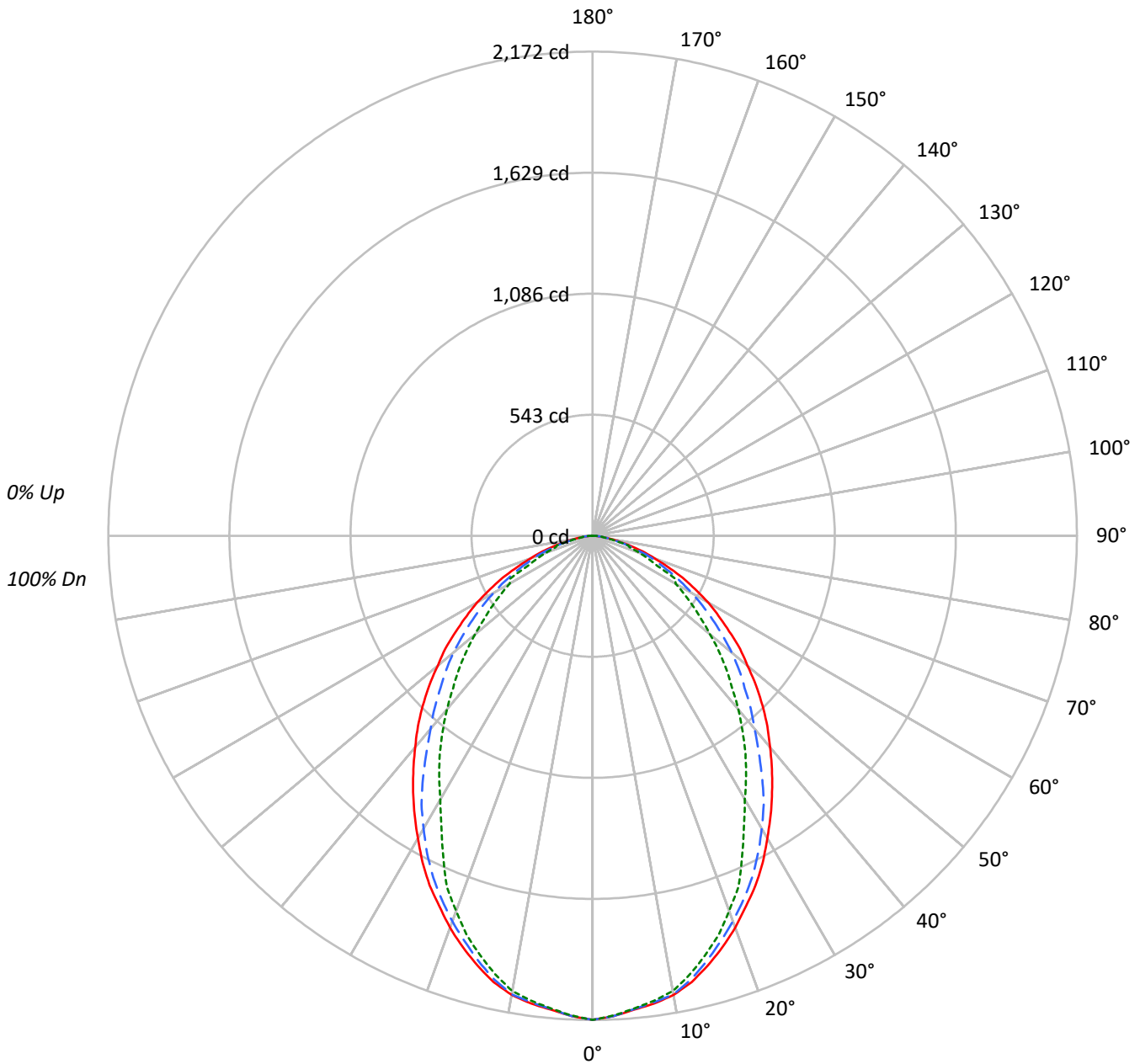
Lumens per Lamp: N/A
Luminaire Lumens: 4263.0 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5843	5843	5843
5°	5764	5757	5750
10°	5714	5707	5666
15°	5560	5504	5427
20°	5356	5269	5126
25°	5136	5024	4711
30°	4868	4712	4244
35°	4610	4354	3926
40°	4347	3968	3571
45°	4099	3669	3229
50°	3794	3405	2880
55°	3510	3086	2579
60°	3216	2756	2310
65°	2829	2414	2046
70°	2330	2113	1738
75°	1853	1618	1697
80°	1244	1167	1089
85°	775	929	1084



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.1	4.7
10°-20°	554.8	13.0
20°-30°	768.0	18.0
30°-40°	818.9	19.2
40°-50°	747.1	17.5
50°-60°	585.3	13.7
60°-70°	381.5	8.9
70°-80°	169.0	4.0
80°-90°	36.3	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°	1524.9	35.8
0°-40°	2343.8	55.0
0°-60°	3676.2	86.2
0°-90°	4263.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4263.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2172	2172	2172	2172	2172	
5°	2134	2131	2131	2129	2129	203
15°	1996	1996	1976	1956	1948	561
25°	1730	1720	1692	1632	1587	794
35°	1403	1393	1326	1225	1195	877
45°	1077	1054	964	884	848	830
55°	748	726	658	580	550	671
65°	444	419	379	387	321	438
75°	178	166	156	148	163	191
85°	25	28	30	33	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2171.5	2171.5	2171.5	2171.5	2171.5
2.5°	2156.5	2156.5	2156.5	2153.9	2153.9
5°	2133.9	2131.3	2131.3	2128.8	2128.8
7.5°	2116.3	2113.8	2111.3	2108.8	2103.7
10°	2091.2	2091.2	2088.7	2076.1	2073.6
12.5°	2051.0	2048.5	2038.5	2020.9	2015.9
15°	1995.8	1995.8	1975.7	1955.6	1948.1
17.5°	1935.5	1933.0	1907.9	1887.8	1877.8
20°	1870.3	1865.2	1840.1	1807.5	1789.9
22.5°	1797.5	1797.5	1767.3	1724.7	1707.1
25°	1729.7	1719.6	1692.0	1631.8	1586.6
27.5°	1651.9	1636.8	1606.7	1521.3	1468.6
30°	1566.5	1559.0	1516.3	1405.8	1365.7
32.5°	1486.2	1473.6	1428.4	1313.0	1280.3
35°	1403.3	1393.3	1325.5	1225.1	1195.0
37.5°	1320.5	1307.9	1222.6	1142.2	1104.6
40°	1237.6	1222.6	1129.7	1056.9	1016.7
42.5°	1159.8	1139.7	1049.4	971.5	926.3
45°	1077.0	1054.4	964.0	883.7	848.5
47.5°	994.1	974.0	891.2	808.4	768.2
50°	906.3	888.7	813.4	730.5	687.9
52.5°	833.5	805.8	733.0	650.2	615.1
55°	748.1	725.5	657.7	579.9	549.8
57.5°	670.3	647.7	584.9	512.1	487.0
60°	597.5	564.8	512.1	449.4	429.3
62.5°	517.1	492.0	446.9	394.1	419.2
65°	444.3	419.2	379.1	386.6	321.3
67.5°	364.0	351.5	316.3	281.2	271.1
70°	296.2	281.2	268.6	231.0	220.9
72.5°	236.0	220.9	203.3	183.3	175.7
75°	178.2	165.7	155.6	148.1	163.2
77.5°	123.0	118.0	110.5	102.9	100.4
80°	80.3	77.8	75.3	72.8	70.3
82.5°	47.7	47.7	47.7	47.7	47.7
85°	25.1	27.6	30.1	32.6	35.1
87.5°	15.1	15.1	17.6	20.1	22.6
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)