

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: P546244

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-81-94-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: P546244
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-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC 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

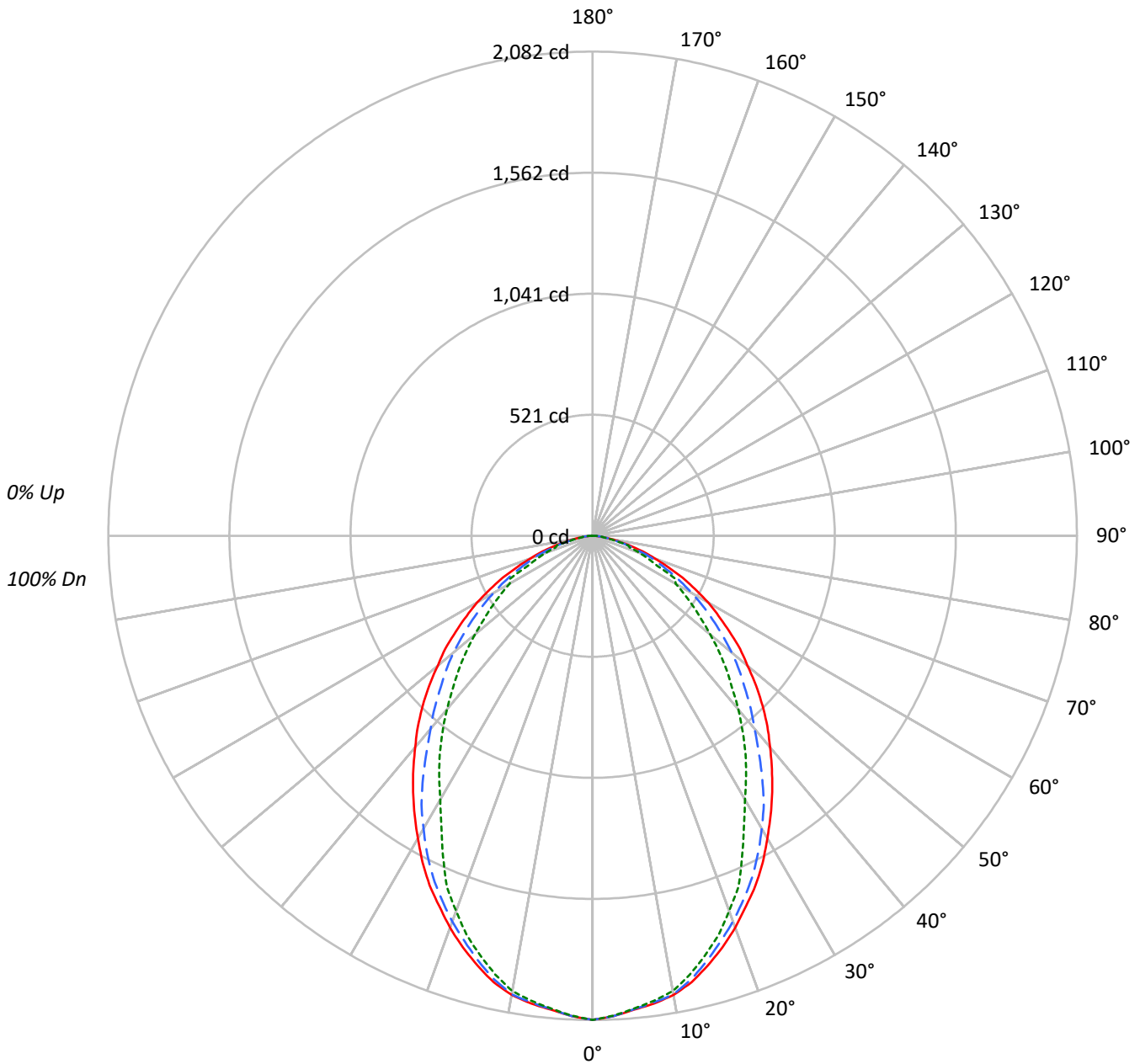
Lumens per Lamp: N/A
Luminaire Lumens: 4087.0 lumens
Efficiency: N/A
Efficacy: 87.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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°	5602	5602	5602
5°	5526	5520	5513
10°	5478	5472	5432
15°	5331	5277	5203
20°	5135	5052	4914
25°	4924	4817	4516
30°	4667	4517	4068
35°	4420	4175	3763
40°	4168	3805	3424
45°	3929	3517	3096
50°	3637	3265	2761
55°	3365	2959	2473
60°	3083	2643	2215
65°	2713	2314	1962
70°	2234	2026	1666
75°	1777	1551	1626
80°	1193	1119	1044
85°	744	892	1041



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.8	4.7
10°-20°	531.8	13.0
20°-30°	736.3	18.0
30°-40°	785.1	19.2
40°-50°	716.3	17.5
50°-60°	561.1	13.7
60°-70°	365.7	8.9
70°-80°	162.0	4.0
80°-90°	34.8	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°	1462.0	35.8
0°-40°	2247.1	55.0
0°-60°	3524.5	86.2
0°-90°	4087.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4087.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2082	2082	2082	2082	2082	
5°	2046	2043	2043	2041	2041	194
15°	1913	1913	1894	1875	1868	538
25°	1658	1649	1622	1564	1521	761
35°	1345	1336	1271	1174	1146	841
45°	1032	1011	924	847	814	795
55°	717	696	631	556	527	643
65°	426	402	363	371	308	420
75°	171	159	149	142	156	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2081.9	2081.9	2081.9	2081.9	2081.9
2.5°	2067.4	2067.4	2067.4	2065.0	2065.0
5°	2045.8	2043.4	2043.4	2040.9	2040.9
7.5°	2028.9	2026.5	2024.1	2021.7	2016.9
10°	2004.8	2004.8	2002.4	1990.4	1988.0
12.5°	1966.3	1963.9	1954.3	1937.5	1932.6
15°	1913.4	1913.4	1894.1	1874.9	1867.7
17.5°	1855.6	1853.2	1829.2	1809.9	1800.3
20°	1793.0	1788.2	1764.2	1732.9	1716.0
22.5°	1723.3	1723.3	1694.4	1653.5	1636.6
25°	1658.3	1648.6	1622.2	1564.4	1521.1
27.5°	1583.7	1569.2	1540.3	1458.5	1408.0
30°	1501.8	1494.6	1453.7	1347.8	1309.3
32.5°	1424.8	1412.8	1369.5	1258.7	1227.5
35°	1345.4	1335.8	1270.8	1174.5	1145.6
37.5°	1266.0	1253.9	1172.1	1095.1	1059.0
40°	1186.5	1172.1	1083.1	1013.3	974.7
42.5°	1111.9	1092.7	1006.0	931.4	888.1
45°	1032.5	1010.8	924.2	847.2	813.5
47.5°	953.1	933.8	854.4	775.0	736.5
50°	868.8	852.0	779.8	700.4	659.5
52.5°	799.1	772.6	702.8	623.4	589.7
55°	717.2	695.6	630.6	556.0	527.1
57.5°	642.6	620.9	560.8	491.0	466.9
60°	572.8	541.5	491.0	430.8	411.6
62.5°	495.8	471.7	428.4	377.9	401.9
65°	426.0	401.9	363.4	370.6	308.1
67.5°	349.0	336.9	303.3	269.6	259.9
70°	284.0	269.6	257.5	221.4	211.8
72.5°	226.2	211.8	194.9	175.7	168.5
75°	170.9	158.8	149.2	142.0	156.4
77.5°	117.9	113.1	105.9	98.7	96.3
80°	77.0	74.6	72.2	69.8	67.4
82.5°	45.7	45.7	45.7	45.7	45.7
85°	24.1	26.5	28.9	31.3	33.7
87.5°	14.4	14.4	16.8	19.3	21.7
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)