

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: P546277

Luminaire Tested: **FMR-12-4-LD4-2LO-50-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: P546277
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

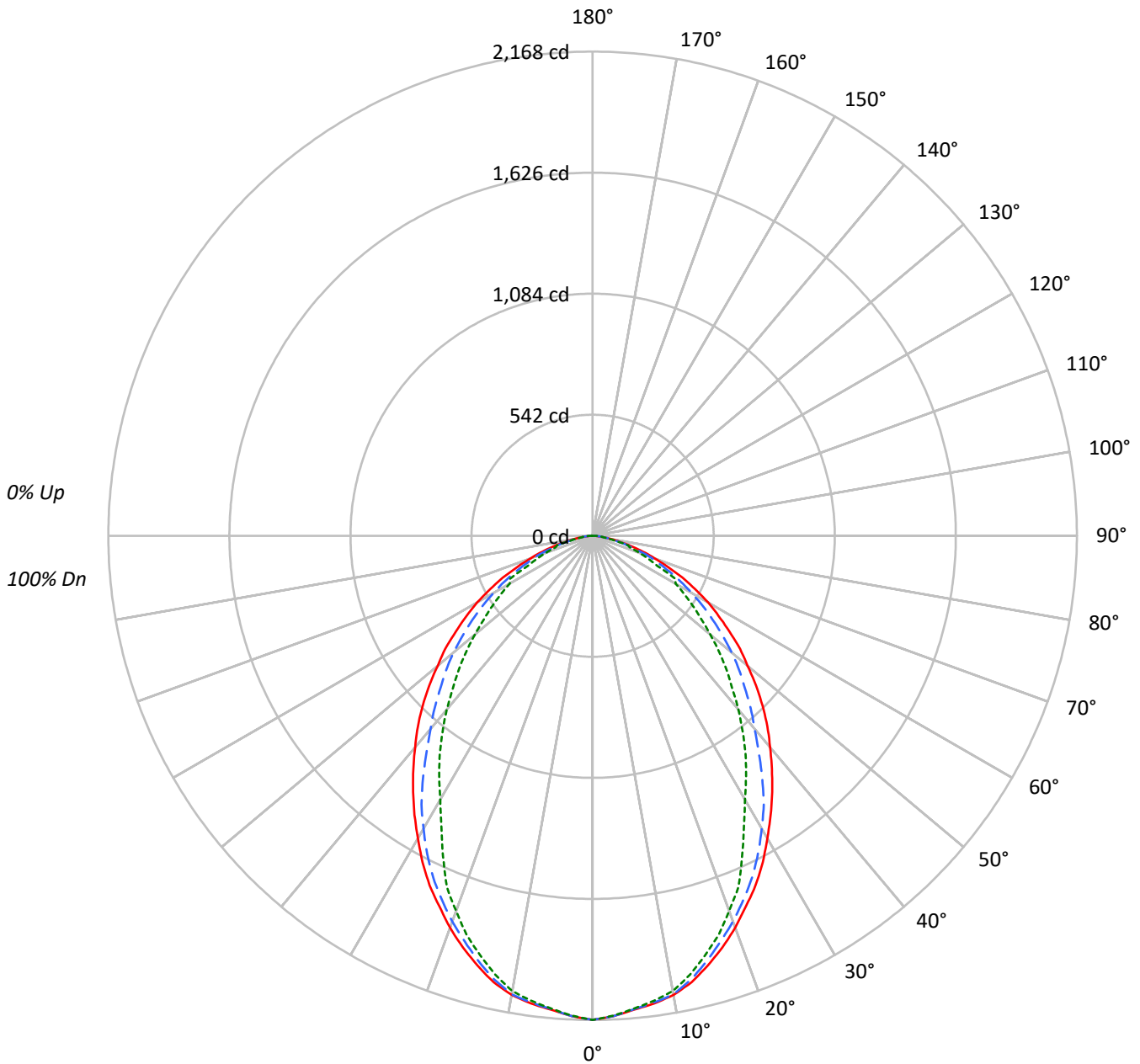
Lumens per Lamp: N/A
Luminaire Lumens: 4256.0 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5834	5834	5834
5°	5755	5748	5741
10°	5705	5698	5657
15°	5551	5495	5418
20°	5347	5261	5117
25°	5127	5016	4703
30°	4859	4704	4236
35°	4602	4347	3919
40°	4340	3962	3566
45°	4092	3663	3224
50°	3788	3399	2875
55°	3504	3081	2575
60°	3210	2752	2307
65°	2825	2410	2043
70°	2327	2110	1736
75°	1850	1616	1694
80°	1243	1165	1088
85°	775	929	1084



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.8	4.7
10°-20°	553.8	13.0
20°-30°	766.7	18.0
30°-40°	817.6	19.2
40°-50°	745.9	17.5
50°-60°	584.3	13.7
60°-70°	380.8	8.9
70°-80°	168.7	4.0
80°-90°	36.2	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°	1522.4	35.8
0°-40°	2340.0	55.0
0°-60°	3670.2	86.2
0°-90°	4256.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4256.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2168	2168	2168	2168	2168	
5°	2130	2128	2128	2125	2125	202
15°	1992	1992	1972	1952	1945	560
25°	1727	1717	1689	1629	1584	793
35°	1401	1391	1323	1223	1193	876
45°	1075	1053	962	882	847	828
55°	747	724	657	579	549	670
65°	444	419	378	386	321	437
75°	178	165	155	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°	2167.9	2167.9	2167.9	2167.9	2167.9
2.5°	2152.9	2152.9	2152.9	2150.4	2150.4
5°	2130.4	2127.8	2127.8	2125.3	2125.3
7.5°	2112.8	2110.3	2107.8	2105.3	2100.3
10°	2087.7	2087.7	2085.2	2072.7	2070.2
12.5°	2047.6	2045.1	2035.1	2017.6	2012.6
15°	1992.5	1992.5	1972.5	1952.4	1944.9
17.5°	1932.4	1929.9	1904.8	1884.7	1874.7
20°	1867.2	1862.2	1837.1	1804.5	1787.0
22.5°	1794.5	1794.5	1764.4	1721.8	1704.3
25°	1726.8	1716.8	1689.2	1629.1	1584.0
27.5°	1649.1	1634.1	1604.0	1518.8	1466.2
30°	1563.9	1556.4	1513.8	1403.5	1363.4
32.5°	1483.7	1471.2	1426.1	1310.8	1278.2
35°	1401.0	1391.0	1323.3	1223.1	1193.0
37.5°	1318.3	1305.8	1220.6	1140.4	1102.8
40°	1235.6	1220.6	1127.8	1055.2	1015.1
42.5°	1157.9	1137.9	1047.6	969.9	924.8
45°	1075.2	1052.6	962.4	882.2	847.1
47.5°	992.5	972.4	889.7	807.0	766.9
50°	904.8	887.2	812.0	729.3	686.7
52.5°	832.1	804.5	731.8	649.1	614.0
55°	746.9	724.3	656.7	579.0	548.9
57.5°	669.2	646.6	584.0	511.3	486.2
60°	596.5	563.9	511.3	448.6	428.6
62.5°	516.3	491.2	446.1	393.5	418.6
65°	443.6	418.6	378.5	386.0	320.8
67.5°	363.4	350.9	315.8	280.7	270.7
70°	295.7	280.7	268.2	230.6	220.6
72.5°	235.6	220.6	203.0	183.0	175.4
75°	177.9	165.4	155.4	147.9	162.9
77.5°	122.8	117.8	110.3	102.8	100.3
80°	80.2	77.7	75.2	72.7	70.2
82.5°	47.6	47.6	47.6	47.6	47.6
85°	25.1	27.6	30.1	32.6	35.1
87.5°	15.0	15.0	17.5	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)