

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: P546271

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-81-84-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: P546271
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-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

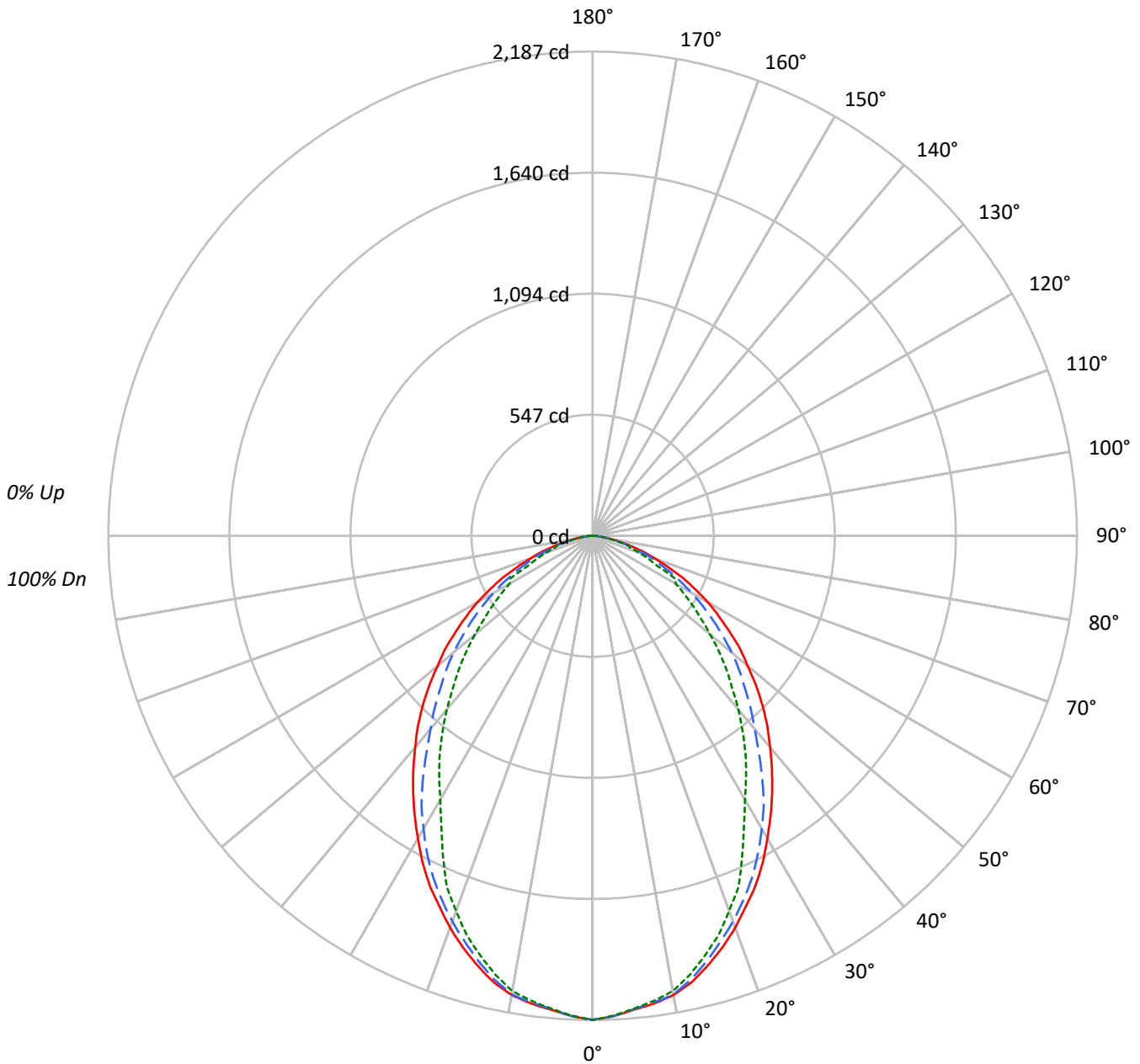
Lumens per Lamp: N/A
Luminaire Lumens: 4293.0 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5885	5885	5885
5°	5805	5798	5791
10°	5754	5748	5706
15°	5599	5543	5465
20°	5393	5307	5162
25°	5172	5059	4744
30°	4902	4745	4273
35°	4642	4385	3953
40°	4378	3996	3597
45°	4128	3694	3252
50°	3821	3429	2900
55°	3535	3108	2598
60°	3238	2775	2327
65°	2849	2430	2060
70°	2347	2128	1751
75°	1866	1629	1708
80°	1254	1175	1097
85°	781	936	1093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.6	4.7
10°-20°	558.7	13.0
20°-30°	773.4	18.0
30°-40°	824.7	19.2
40°-50°	752.4	17.5
50°-60°	589.4	13.7
60°-70°	384.1	8.9
70°-80°	170.2	4.0
80°-90°	36.5	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°	1535.6	35.8
0°-40°	2360.3	55.0
0°-60°	3702.1	86.2
0°-90°	4293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4293.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2187	2187	2187	2187	2187	
5°	2149	2146	2146	2144	2144	204
15°	2010	2010	1990	1969	1962	565
25°	1742	1732	1704	1643	1598	800
35°	1413	1403	1335	1234	1203	884
45°	1085	1062	971	890	854	835
55°	753	731	662	584	554	676
65°	448	422	382	389	324	441
75°	180	167	157	149	164	192
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°	2186.8	2186.8	2186.8	2186.8	2186.8
2.5°	2171.6	2171.6	2171.6	2169.1	2169.1
5°	2148.9	2146.3	2146.3	2143.8	2143.8
7.5°	2131.2	2128.7	2126.1	2123.6	2118.5
10°	2105.9	2105.9	2103.4	2090.7	2088.2
12.5°	2065.4	2062.9	2052.8	2035.1	2030.1
15°	2009.8	2009.8	1989.6	1969.4	1961.8
17.5°	1949.2	1946.6	1921.3	1901.1	1891.0
20°	1883.4	1878.4	1853.1	1820.2	1802.5
22.5°	1810.1	1810.1	1779.8	1736.8	1719.1
25°	1741.9	1731.7	1703.9	1643.3	1597.8
27.5°	1663.5	1648.3	1618.0	1532.0	1478.9
30°	1577.5	1569.9	1527.0	1415.7	1375.3
32.5°	1496.6	1484.0	1438.5	1322.2	1289.3
35°	1413.2	1403.1	1334.8	1233.7	1203.4
37.5°	1329.8	1317.1	1231.2	1150.3	1112.4
40°	1246.3	1231.2	1137.6	1064.3	1023.9
42.5°	1168.0	1147.8	1056.7	978.4	932.9
45°	1084.6	1061.8	970.8	889.9	854.5
47.5°	1001.1	980.9	897.5	814.0	773.6
50°	912.6	894.9	819.1	735.7	692.7
52.5°	839.3	811.5	738.2	654.8	619.4
55°	753.4	730.6	662.4	584.0	553.7
57.5°	675.0	652.2	589.0	515.7	490.4
60°	601.7	568.8	515.7	452.5	432.3
62.5°	520.8	495.5	450.0	396.9	422.2
65°	447.5	422.2	381.7	389.3	323.6
67.5°	366.6	353.9	318.5	283.1	273.0
70°	298.3	283.1	270.5	232.6	222.5
72.5°	237.6	222.5	204.8	184.6	177.0
75°	179.5	166.9	156.7	149.2	164.3
77.5°	123.9	118.8	111.2	103.7	101.1
80°	80.9	78.4	75.8	73.3	70.8
82.5°	48.0	48.0	48.0	48.0	48.0
85°	25.3	27.8	30.3	32.9	35.4
87.5°	15.2	15.2	17.7	20.2	22.8
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)