

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: P546199

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-80-84-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: P546199
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-35-UNV-80-84-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

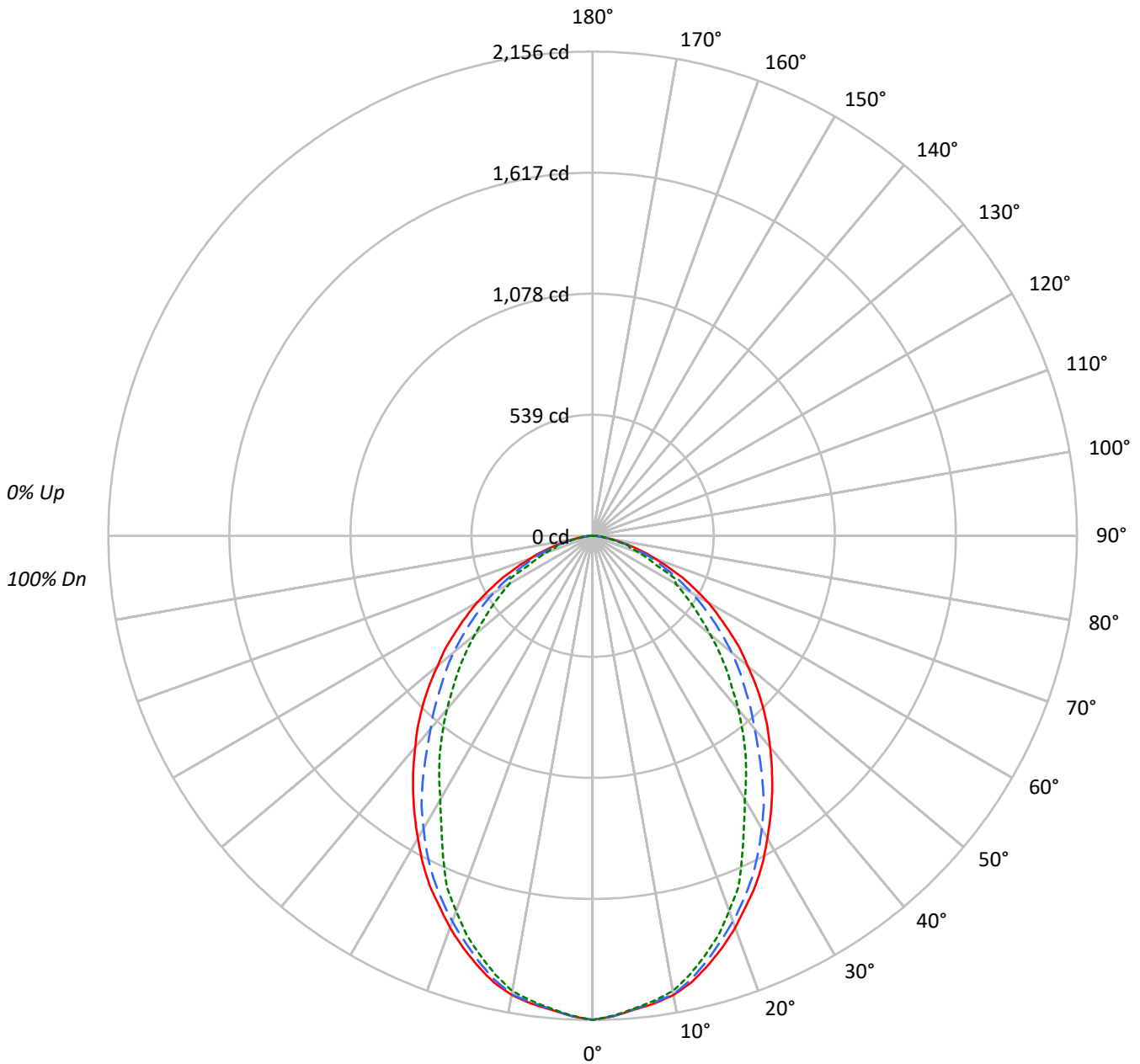
Lumens per Lamp: N/A
Luminaire Lumens: 4232.0 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546199

CATALOG NUMBER: FMR-12-4-LD4-2LO-35-UNV-80-84-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°	5801	5801	5801
5°	5722	5715	5709
10°	5673	5666	5625
15°	5520	5464	5388
20°	5317	5231	5088
25°	5098	4987	4676
30°	4832	4677	4213
35°	4576	4323	3897
40°	4316	3940	3545
45°	4069	3642	3206
50°	3767	3381	2859
55°	3484	3063	2561
60°	3192	2736	2294
65°	2809	2396	2031
70°	2314	2098	1725
75°	1839	1606	1684
80°	1235	1159	1082
85°	769	923	1078



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.7	4.7
10°-20°	550.7	13.0
20°-30°	762.4	18.0
30°-40°	813.0	19.2
40°-50°	741.7	17.5
50°-60°	581.0	13.7
60°-70°	378.7	8.9
70°-80°	167.8	4.0
80°-90°	36.0	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°	1513.8	35.8
0°-40°	2326.8	55.0
0°-60°	3649.5	86.2
0°-90°	4232.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4232.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2156	2156	2156	2156	2156	
5°	2118	2116	2116	2113	2113	201
15°	1981	1981	1961	1941	1934	557
25°	1717	1707	1680	1620	1575	788
35°	1393	1383	1316	1216	1186	871
45°	1069	1047	957	877	842	824
55°	743	720	653	576	546	666
65°	441	416	376	384	319	435
75°	177	164	154	147	162	190
85°	25	27	30	32	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2155.7	2155.7	2155.7	2155.7	2155.7
2.5°	2140.8	2140.8	2140.8	2138.3	2138.3
5°	2118.3	2115.8	2115.8	2113.4	2113.4
7.5°	2100.9	2098.4	2095.9	2093.4	2088.4
10°	2076.0	2076.0	2073.5	2061.0	2058.5
12.5°	2036.1	2033.6	2023.6	2006.2	2001.2
15°	1981.3	1981.3	1961.3	1941.4	1933.9
17.5°	1921.5	1919.0	1894.0	1874.1	1864.1
20°	1856.7	1851.7	1826.8	1794.4	1776.9
22.5°	1784.4	1784.4	1754.5	1712.1	1694.7
25°	1717.1	1707.1	1679.7	1619.9	1575.0
27.5°	1639.8	1624.9	1595.0	1510.3	1457.9
30°	1555.1	1547.6	1505.3	1395.6	1355.7
32.5°	1475.4	1462.9	1418.0	1303.4	1271.0
35°	1393.1	1383.2	1315.9	1216.2	1186.3
37.5°	1310.9	1298.4	1213.7	1133.9	1096.6
40°	1228.6	1213.7	1121.5	1049.2	1009.3
42.5°	1151.4	1131.4	1041.7	964.5	919.6
45°	1069.1	1046.7	957.0	877.2	842.4
47.5°	986.9	967.0	884.7	802.5	762.6
50°	899.7	882.2	807.5	725.2	682.9
52.5°	827.4	800.0	727.7	645.5	610.6
55°	742.7	720.2	652.9	575.7	545.8
57.5°	665.4	643.0	580.7	508.4	483.5
60°	593.1	560.7	508.4	446.1	426.2
62.5°	513.4	488.5	443.6	391.3	416.2
65°	441.1	416.2	376.3	383.8	319.0
67.5°	361.4	348.9	314.0	279.1	269.2
70°	294.1	279.1	266.7	229.3	219.3
72.5°	234.3	219.3	201.9	181.9	174.5
75°	176.9	164.5	154.5	147.0	162.0
77.5°	122.1	117.1	109.7	102.2	99.7
80°	79.7	77.3	74.8	72.3	69.8
82.5°	47.4	47.4	47.4	47.4	47.4
85°	24.9	27.4	29.9	32.4	34.9
87.5°	15.0	15.0	17.4	19.9	22.4
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)