

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: P546435

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-81-88-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: P546435
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-24-4-LD4-1HI-35-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

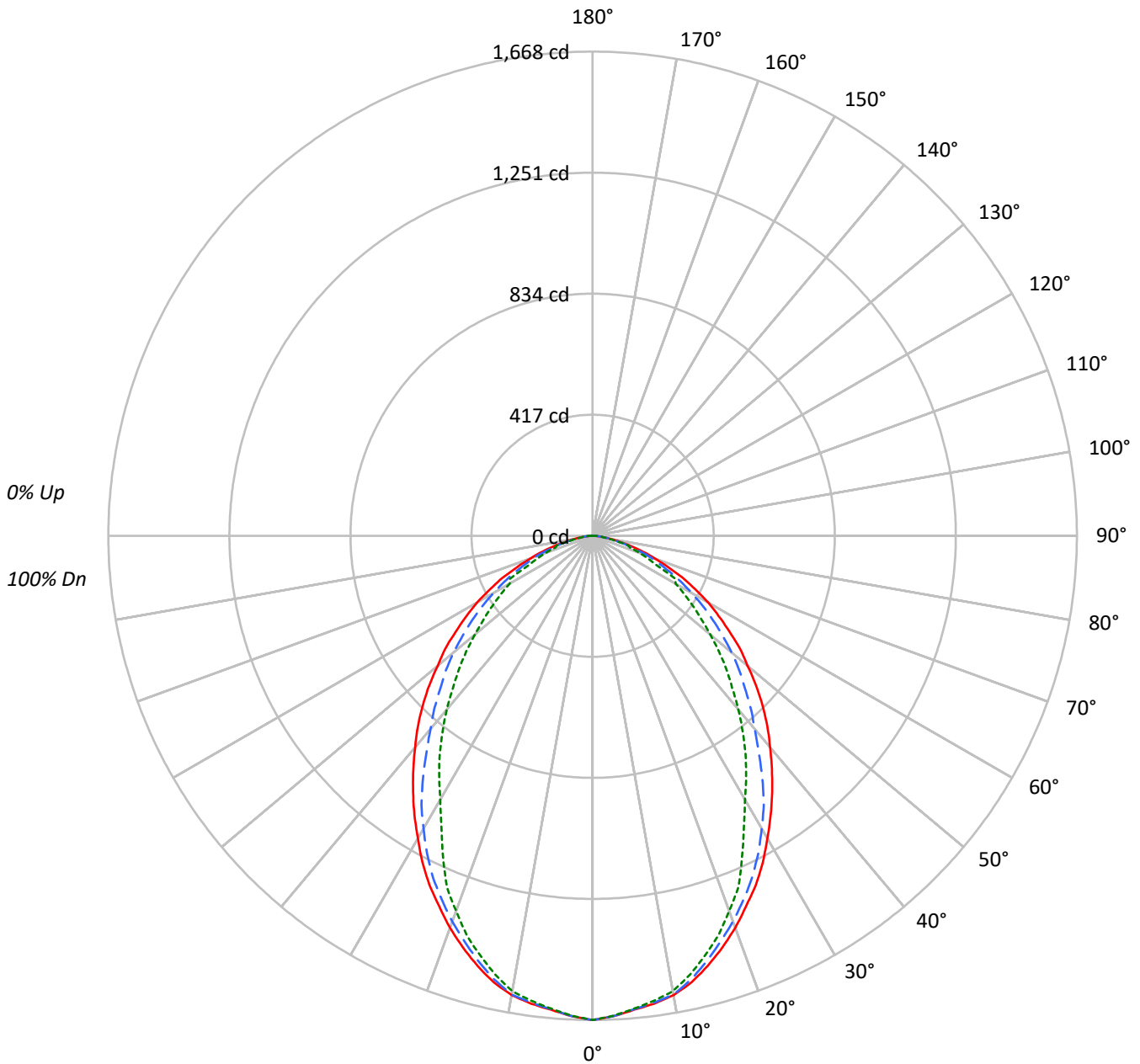
Lumens per Lamp: N/A
Luminaire Lumens: 3275.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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: P546435

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-81-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546435

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-81-88-EDD

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°	2245	2245	2245
5°	2214	2212	2209
10°	2195	2192	2176
15°	2136	2114	2085
20°	2057	2024	1969
25°	1973	1930	1810
30°	1870	1810	1630
35°	1771	1673	1508
40°	1670	1524	1372
45°	1574	1409	1240
50°	1457	1308	1106
55°	1348	1185	991
60°	1235	1059	887
65°	1087	927	786
70°	895	812	668
75°	712	622	652
80°	478	449	418
85°	298	357	417



TEST NUMBER: P546435

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-81-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.3	4.7
10°-20°	426.2	13.0
20°-30°	590.0	18.0
30°-40°	629.1	19.2
40°-50°	574.0	17.5
50°-60°	449.6	13.7
60°-70°	293.1	8.9
70°-80°	129.8	4.0
80°-90°	27.9	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°	1171.5	35.8
0°-40°	1800.6	55.0
0°-60°	2824.2	86.2
0°-90°	3275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1668	1668	1668	1668	1668	
5°	1639	1637	1637	1636	1636	156
15°	1533	1533	1518	1502	1497	431
25°	1329	1321	1300	1254	1219	610
35°	1078	1070	1018	941	918	674
45°	827	810	741	679	652	637
55°	575	557	505	446	422	515
65°	341	322	291	297	247	336
75°	137	127	120	114	125	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



TEST NUMBER: P546435

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-81-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1668.2	1668.2	1668.2	1668.2	1668.2
2.5°	1656.7	1656.7	1656.7	1654.7	1654.7
5°	1639.3	1637.4	1637.4	1635.5	1635.5
7.5°	1625.8	1623.9	1622.0	1620.0	1616.2
10°	1606.5	1606.5	1604.6	1595.0	1593.0
12.5°	1575.7	1573.7	1566.0	1552.5	1548.7
15°	1533.2	1533.2	1517.8	1502.4	1496.6
17.5°	1487.0	1485.0	1465.7	1450.3	1442.6
20°	1436.8	1433.0	1413.7	1388.6	1375.1
22.5°	1380.9	1380.9	1357.7	1324.9	1311.4
25°	1328.8	1321.1	1299.9	1253.6	1218.9
27.5°	1269.0	1257.4	1234.3	1168.7	1128.2
30°	1203.4	1197.7	1164.9	1080.0	1049.2
32.5°	1141.7	1132.1	1097.4	1008.7	983.6
35°	1078.1	1070.4	1018.3	941.2	918.0
37.5°	1014.4	1004.8	939.2	877.5	848.6
40°	950.8	939.2	867.9	811.9	781.1
42.5°	891.0	875.6	806.2	746.4	711.7
45°	827.4	810.0	740.6	678.9	651.9
47.5°	763.7	748.3	684.7	621.0	590.2
50°	696.2	682.7	624.9	561.2	528.4
52.5°	640.3	619.1	563.2	499.5	472.5
55°	574.7	557.4	505.3	445.5	422.4
57.5°	514.9	497.6	449.4	393.4	374.1
60°	459.0	433.9	393.4	345.2	329.8
62.5°	397.3	378.0	343.3	302.8	322.1
65°	341.4	322.1	291.2	297.0	246.9
67.5°	279.6	270.0	243.0	216.0	208.3
70°	227.6	216.0	206.4	177.4	169.7
72.5°	181.3	169.7	156.2	140.8	135.0
75°	136.9	127.3	119.6	113.8	125.4
77.5°	94.5	90.6	84.9	79.1	77.1
80°	61.7	59.8	57.9	55.9	54.0
82.5°	36.6	36.6	36.6	36.6	36.6
85°	19.3	21.2	23.1	25.1	27.0
87.5°	11.6	11.6	13.5	15.4	17.4
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)