

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: P546016

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-81-85-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: P546016
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-LD4-1STD-35-UNV-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

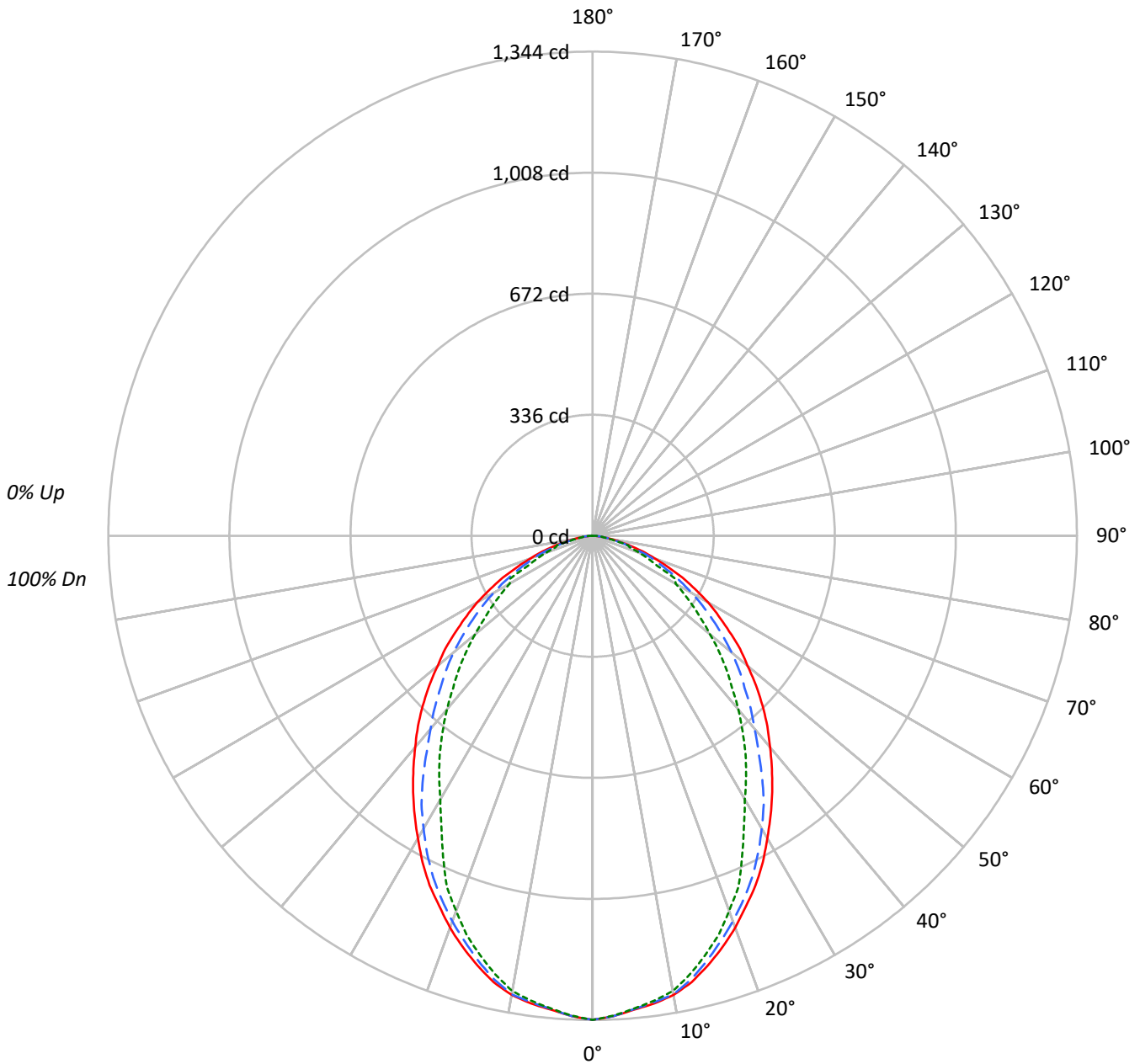
Lumens per Lamp: N/A
Luminaire Lumens: 2638.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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: P546016

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-81-85-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°	3616	3616	3616
5°	3567	3563	3559
10°	3536	3532	3506
15°	3441	3406	3358
20°	3314	3261	3172
25°	3178	3109	2915
30°	3012	2916	2626
35°	2853	2694	2429
40°	2690	2456	2210
45°	2536	2270	1998
50°	2348	2107	1782
55°	2172	1909	1596
60°	1990	1706	1429
65°	1751	1494	1266
70°	1442	1308	1076
75°	1147	1001	1050
80°	770	722	674
85°	479	574	670



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.1	4.7
10°-20°	343.3	13.0
20°-30°	475.3	18.0
30°-40°	506.8	19.2
40°-50°	462.3	17.5
50°-60°	362.2	13.7
60°-70°	236.1	8.9
70°-80°	104.6	4.0
80°-90°	22.4	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°	943.6	35.8
0°-40°	1450.4	55.0
0°-60°	2274.9	86.2
0°-90°	2638.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2638.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1320	1319	1319	1317	1317	125
15°	1235	1235	1223	1210	1206	347
25°	1070	1064	1047	1010	982	491
35°	868	862	820	758	740	543
45°	666	652	596	547	525	513
55°	463	449	407	359	340	415
65°	275	259	235	239	199	271
75°	110	102	96	92	101	118
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1343.8	1343.8	1343.8	1343.8	1343.8
2.5°	1334.4	1334.4	1334.4	1332.9	1332.9
5°	1320.5	1318.9	1318.9	1317.4	1317.4
7.5°	1309.6	1308.0	1306.5	1304.9	1301.8
10°	1294.1	1294.1	1292.5	1284.7	1283.2
12.5°	1269.2	1267.6	1261.4	1250.6	1247.4
15°	1235.0	1235.0	1222.6	1210.2	1205.5
17.5°	1197.7	1196.2	1180.6	1168.2	1162.0
20°	1157.3	1154.2	1138.7	1118.5	1107.6
22.5°	1112.3	1112.3	1093.7	1067.2	1056.4
25°	1070.3	1064.1	1047.0	1009.8	981.8
27.5°	1022.2	1012.9	994.2	941.4	908.8
30°	969.4	964.7	938.3	869.9	845.1
32.5°	919.7	911.9	883.9	812.5	792.3
35°	868.4	862.2	820.2	758.1	739.5
37.5°	817.1	809.4	756.5	706.8	683.5
40°	765.9	756.5	699.1	654.0	629.2
42.5°	717.7	705.3	649.4	601.2	573.2
45°	666.4	652.5	596.5	546.8	525.1
47.5°	615.2	602.8	551.5	500.2	475.4
50°	560.8	549.9	503.3	452.1	425.7
52.5°	515.8	498.7	453.6	402.4	380.6
55°	462.9	449.0	407.0	358.9	340.2
57.5°	414.8	400.8	362.0	316.9	301.4
60°	369.7	349.5	316.9	278.1	265.6
62.5°	320.0	304.5	276.5	243.9	259.4
65°	275.0	259.4	234.6	239.2	198.8
67.5°	225.3	217.5	195.7	174.0	167.8
70°	183.3	174.0	166.2	142.9	136.7
72.5°	146.0	136.7	125.8	113.4	108.7
75°	110.3	102.5	96.3	91.7	101.0
77.5°	76.1	73.0	68.4	63.7	62.1
80°	49.7	48.2	46.6	45.1	43.5
82.5°	29.5	29.5	29.5	29.5	29.5
85°	15.5	17.1	18.6	20.2	21.7
87.5°	9.3	9.3	10.9	12.4	14.0
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)