

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: P546041

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-80-86-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: P546041
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-40-UNV-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

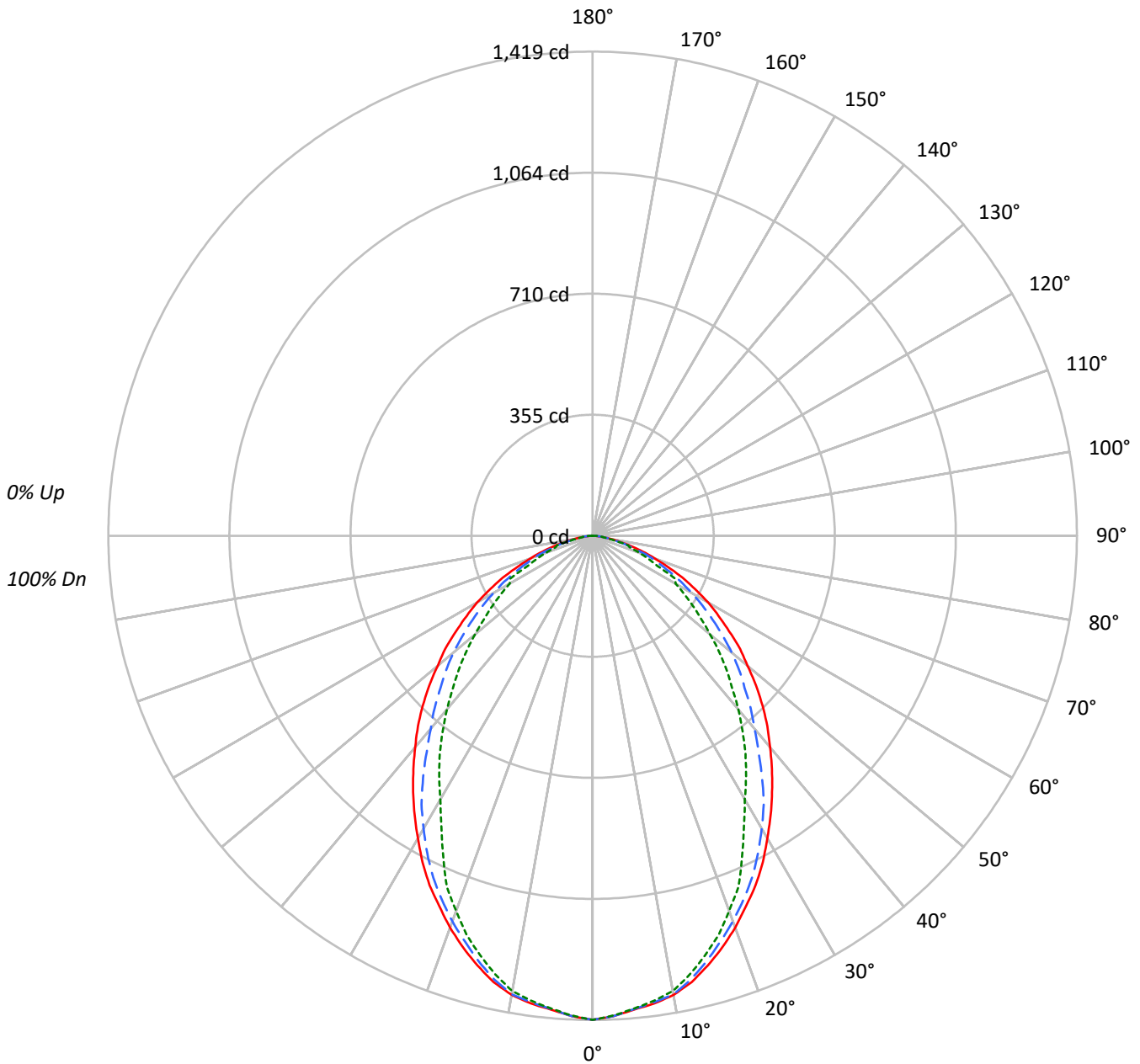
Lumens per Lamp: N/A
Luminaire Lumens: 2785.0 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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°	3817	3817	3817
5°	3766	3761	3757
10°	3733	3728	3702
15°	3632	3596	3546
20°	3499	3443	3349
25°	3355	3282	3078
30°	3180	3078	2772
35°	3012	2845	2565
40°	2840	2592	2333
45°	2678	2397	2109
50°	2479	2225	1881
55°	2293	2016	1685
60°	2101	1801	1509
65°	1848	1577	1337
70°	1522	1381	1135
75°	1210	1057	1108
80°	814	762	711
85°	506	608	710



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.1	4.7
10°-20°	362.4	13.0
20°-30°	501.7	18.0
30°-40°	535.0	19.2
40°-50°	488.1	17.5
50°-60°	382.4	13.7
60°-70°	249.2	8.9
70°-80°	110.4	4.0
80°-90°	23.7	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°	996.2	35.8
0°-40°	1531.2	55.0
0°-60°	2401.7	86.2
0°-90°	2785.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2785.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1394	1392	1392	1391	1391	132
15°	1304	1304	1291	1278	1273	367
25°	1130	1123	1105	1066	1036	519
35°	917	910	866	800	781	573
45°	704	689	630	577	554	542
55°	489	474	430	379	359	438
65°	290	274	248	253	210	286
75°	116	108	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1418.6	1418.6	1418.6	1418.6	1418.6
2.5°	1408.8	1408.8	1408.8	1407.2	1407.2
5°	1394.0	1392.4	1392.4	1390.8	1390.8
7.5°	1382.6	1380.9	1379.3	1377.6	1374.4
10°	1366.2	1366.2	1364.5	1356.3	1354.7
12.5°	1339.9	1338.3	1331.7	1320.2	1317.0
15°	1303.8	1303.8	1290.7	1277.6	1272.7
17.5°	1264.5	1262.8	1246.4	1233.3	1226.8
20°	1221.8	1218.6	1202.2	1180.8	1169.4
22.5°	1174.3	1174.3	1154.6	1126.7	1115.2
25°	1130.0	1123.4	1105.4	1066.0	1036.5
27.5°	1079.2	1069.3	1049.6	993.9	959.4
30°	1023.4	1018.5	990.6	918.4	892.2
32.5°	970.9	962.7	933.2	857.7	836.4
35°	916.8	910.2	865.9	800.3	780.7
37.5°	862.7	854.5	798.7	746.2	721.6
40°	808.5	798.7	738.0	690.5	664.2
42.5°	757.7	744.6	685.5	634.7	605.2
45°	703.6	688.8	629.8	577.3	554.3
47.5°	649.5	636.3	582.2	528.1	501.9
50°	592.1	580.6	531.4	477.3	449.4
52.5°	544.5	526.5	478.9	424.8	401.8
55°	488.7	474.0	429.7	378.9	359.2
57.5°	437.9	423.1	382.1	334.6	318.2
60°	390.3	369.0	334.6	293.6	280.4
62.5°	337.8	321.4	291.9	257.5	273.9
65°	290.3	273.9	247.6	252.6	209.9
67.5°	237.8	229.6	206.6	183.7	177.1
70°	193.5	183.7	175.5	150.9	144.3
72.5°	154.2	144.3	132.8	119.7	114.8
75°	116.4	108.2	101.7	96.8	106.6
77.5°	80.4	77.1	72.2	67.2	65.6
80°	52.5	50.8	49.2	47.6	45.9
82.5°	31.2	31.2	31.2	31.2	31.2
85°	16.4	18.0	19.7	21.3	23.0
87.5°	9.8	9.8	11.5	13.1	14.8
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)