

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: P545855

Luminaire Tested: **FMR-12-4-LD4-1HI-40-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: P545855
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-LD4-1HI-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

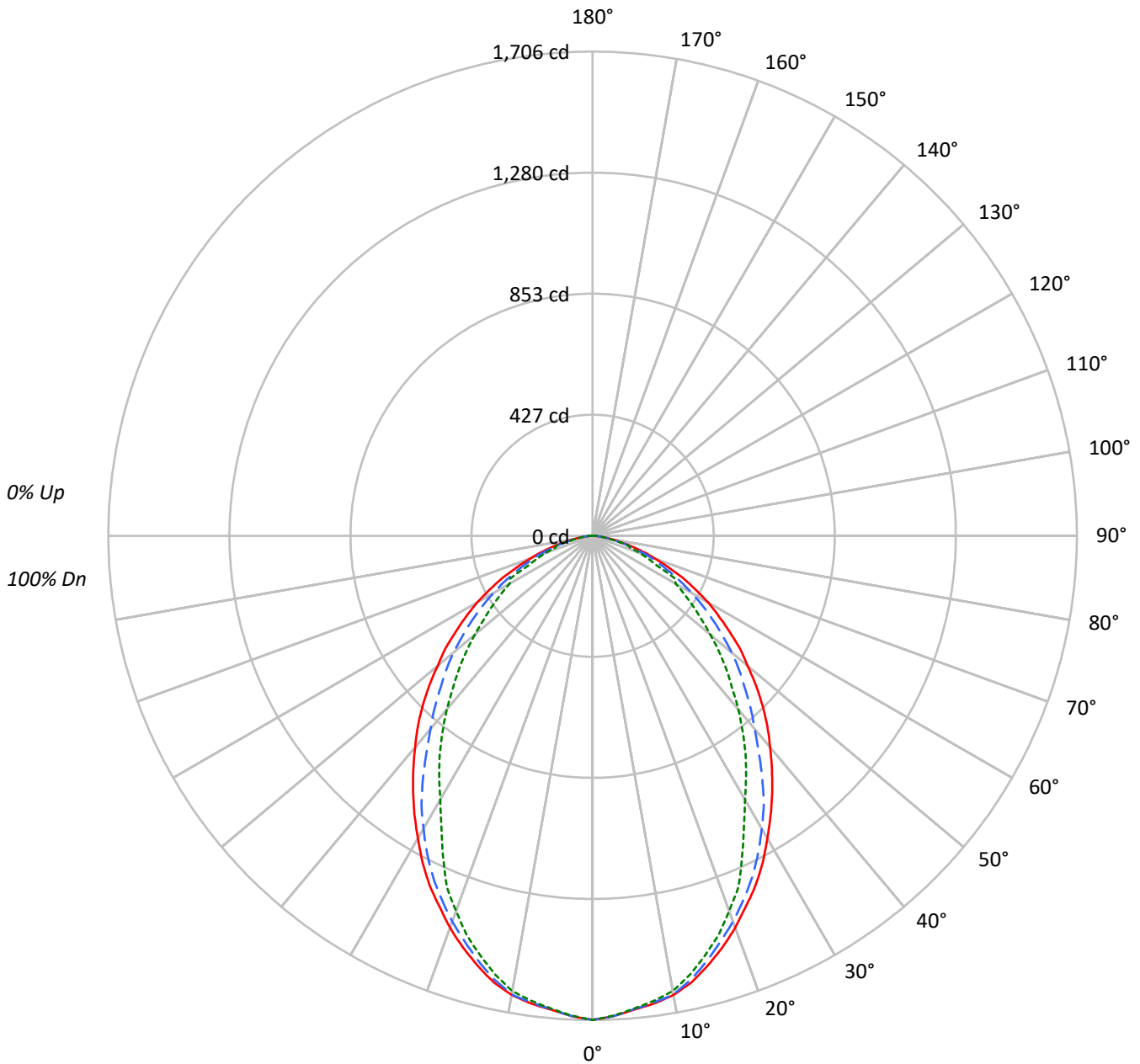
Lumens per Lamp: N/A
Luminaire Lumens: 3349.0 lumens
Efficiency: N/A
Efficacy: 77.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P545855

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-81-84-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°	4591	4591	4591
5°	4528	4523	4518
10°	4489	4484	4451
15°	4368	4324	4264
20°	4208	4140	4027
25°	4035	3947	3701
30°	3824	3701	3334
35°	3621	3421	3084
40°	3416	3118	2806
45°	3220	2882	2537
50°	2981	2675	2262
55°	2757	2424	2026
60°	2526	2165	1815
65°	2223	1896	1607
70°	1831	1660	1366
75°	1456	1272	1333
80°	978	917	855
85°	608	732	852



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.8	4.7
10°-20°	435.8	13.0
20°-30°	603.3	18.0
30°-40°	643.4	19.2
40°-50°	586.9	17.5
50°-60°	459.8	13.7
60°-70°	299.7	8.9
70°-80°	132.8	4.0
80°-90°	28.5	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°	1198.0	35.8
0°-40°	1841.3	55.0
0°-60°	2888.1	86.2
0°-90°	3349.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3349.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1706	1706	1706	1706	1706	
5°	1676	1674	1674	1672	1672	159
15°	1568	1568	1552	1536	1530	441
25°	1359	1351	1329	1282	1246	624
35°	1102	1095	1041	962	939	689
45°	846	828	757	694	667	652
55°	588	570	517	456	432	527
65°	349	329	298	304	252	344
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1705.9	1705.9	1705.9	1705.9	1705.9
2.5°	1694.1	1694.1	1694.1	1692.1	1692.1
5°	1676.4	1674.4	1674.4	1672.4	1672.4
7.5°	1662.5	1660.6	1658.6	1656.6	1652.7
10°	1642.8	1642.8	1640.9	1631.0	1629.0
12.5°	1611.3	1609.3	1601.4	1587.6	1583.7
15°	1567.9	1567.9	1552.1	1536.3	1530.4
17.5°	1520.6	1518.6	1498.9	1483.1	1475.2
20°	1469.3	1465.3	1445.6	1420.0	1406.2
22.5°	1412.1	1412.1	1388.4	1354.9	1341.1
25°	1358.8	1350.9	1329.2	1281.9	1246.4
27.5°	1297.7	1285.9	1262.2	1195.1	1153.7
30°	1230.6	1224.7	1191.2	1104.4	1072.9
32.5°	1167.5	1157.7	1122.2	1031.5	1005.8
35°	1102.4	1094.6	1041.3	962.4	938.8
37.5°	1037.4	1027.5	960.5	897.3	867.8
40°	972.3	960.5	887.5	830.3	798.7
42.5°	911.1	895.4	824.4	763.2	727.7
45°	846.1	828.3	757.3	694.2	666.6
47.5°	781.0	765.2	700.1	635.0	603.5
50°	712.0	698.2	639.0	573.9	540.4
52.5°	654.8	633.1	575.9	510.8	483.2
55°	587.7	570.0	516.7	455.6	431.9
57.5°	526.6	508.8	459.5	402.3	382.6
60°	469.4	443.7	402.3	353.0	337.2
62.5°	406.3	386.5	351.0	309.6	329.4
65°	349.1	329.4	297.8	303.7	252.4
67.5°	286.0	276.1	248.5	220.9	213.0
70°	232.7	220.9	211.0	181.4	173.6
72.5°	185.4	173.6	159.7	144.0	138.1
75°	140.0	130.2	122.3	116.4	128.2
77.5°	96.6	92.7	86.8	80.9	78.9
80°	63.1	61.1	59.2	57.2	55.2
82.5°	37.5	37.5	37.5	37.5	37.5
85°	19.7	21.7	23.7	25.6	27.6
87.5°	11.8	11.8	13.8	15.8	17.7
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)