

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: P545856

Luminaire Tested: **FMR-12-4-LD4-1HI-40-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: P545856
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-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

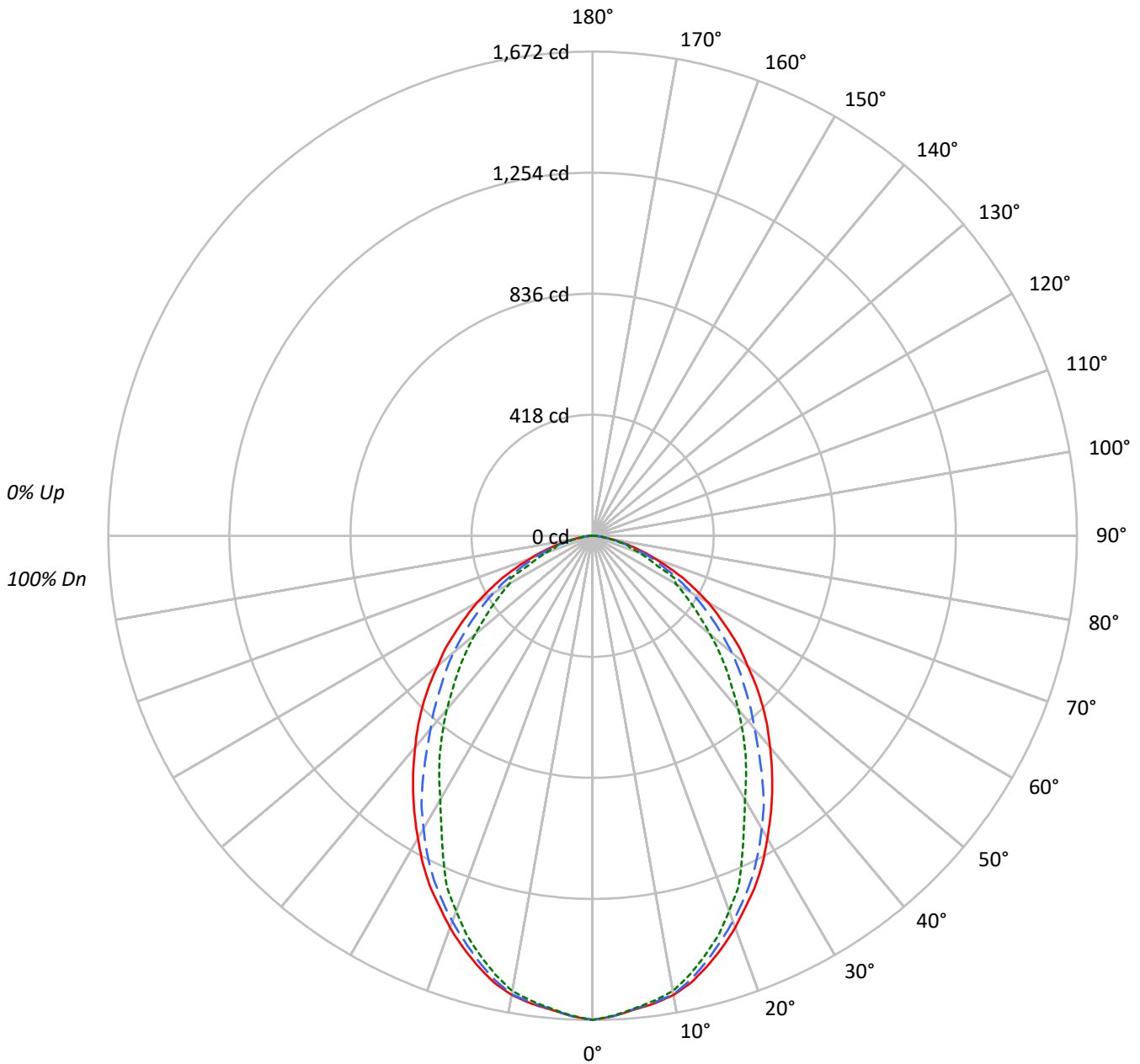
Lumens per Lamp: N/A
Luminaire Lumens: 3282.0 lumens
Efficiency: N/A
Efficacy: 76.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P545856

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-81-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545856

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-81-85-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°	4499	4499	4499
5°	4438	4432	4427
10°	4399	4394	4362
15°	4281	4238	4178
20°	4123	4057	3946
25°	3954	3868	3627
30°	3747	3627	3267
35°	3549	3352	3022
40°	3347	3055	2750
45°	3155	2825	2486
50°	2921	2622	2217
55°	2702	2376	1986
60°	2476	2122	1779
65°	2178	1858	1575
70°	1795	1627	1338
75°	1426	1246	1306
80°	958	899	838
85°	596	716	837



TEST NUMBER: P545856

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-81-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.6	4.7
10°-20°	427.1	13.0
20°-30°	591.3	18.0
30°-40°	630.5	19.2
40°-50°	575.2	17.5
50°-60°	450.6	13.7
60°-70°	293.7	8.9
70°-80°	130.1	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°	1174.0	35.8
0°-40°	1804.5	55.0
0°-60°	2830.3	86.2
0°-90°	3282.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3282.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1672	1672	1672	1672	1672	
5°	1643	1641	1641	1639	1639	156
15°	1536	1536	1521	1506	1500	432
25°	1332	1324	1303	1256	1222	611
35°	1080	1073	1020	943	920	675
45°	829	812	742	680	653	639
55°	576	559	506	446	423	517
65°	342	323	292	298	247	337
75°	137	128	120	114	126	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



TEST NUMBER: P545856

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-81-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1671.8	1671.8	1671.8	1671.8	1671.8
2.5°	1660.2	1660.2	1660.2	1658.3	1658.3
5°	1642.8	1640.9	1640.9	1639.0	1639.0
7.5°	1629.3	1627.4	1625.4	1623.5	1619.6
10°	1610.0	1610.0	1608.0	1598.4	1596.4
12.5°	1579.0	1577.1	1569.4	1555.8	1552.0
15°	1536.5	1536.5	1521.1	1505.6	1499.8
17.5°	1490.1	1488.2	1468.9	1453.4	1445.7
20°	1439.9	1436.0	1416.7	1391.6	1378.0
22.5°	1383.8	1383.8	1360.6	1327.8	1314.3
25°	1331.6	1323.9	1302.7	1256.3	1221.5
27.5°	1271.7	1260.1	1236.9	1171.2	1130.6
30°	1206.0	1200.2	1167.4	1082.3	1051.4
32.5°	1144.2	1134.5	1099.7	1010.8	985.7
35°	1080.4	1072.7	1020.5	943.2	920.0
37.5°	1016.6	1006.9	941.2	879.4	850.4
40°	952.8	941.2	869.7	813.7	782.8
42.5°	892.9	877.5	807.9	748.0	713.2
45°	829.1	811.7	742.2	680.3	653.3
47.5°	765.4	749.9	686.1	622.3	591.4
50°	697.7	684.2	626.2	562.4	529.6
52.5°	641.7	620.4	564.4	500.6	473.5
55°	576.0	558.6	506.4	446.5	423.3
57.5°	516.0	498.6	450.3	394.3	374.9
60°	460.0	434.9	394.3	346.0	330.5
62.5°	398.1	378.8	344.0	303.4	322.8
65°	342.1	322.8	291.8	297.6	247.4
67.5°	280.2	270.6	243.5	216.5	208.7
70°	228.1	216.5	206.8	177.8	170.1
72.5°	181.7	170.1	156.6	141.1	135.3
75°	137.2	127.6	119.8	114.0	125.6
77.5°	94.7	90.8	85.0	79.2	77.3
80°	61.8	59.9	58.0	56.0	54.1
82.5°	36.7	36.7	36.7	36.7	36.7
85°	19.3	21.3	23.2	25.1	27.1
87.5°	11.6	11.6	13.5	15.5	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)