

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: P546250

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-82-87-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: P546250
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-LD4-2LO-40-UNV-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

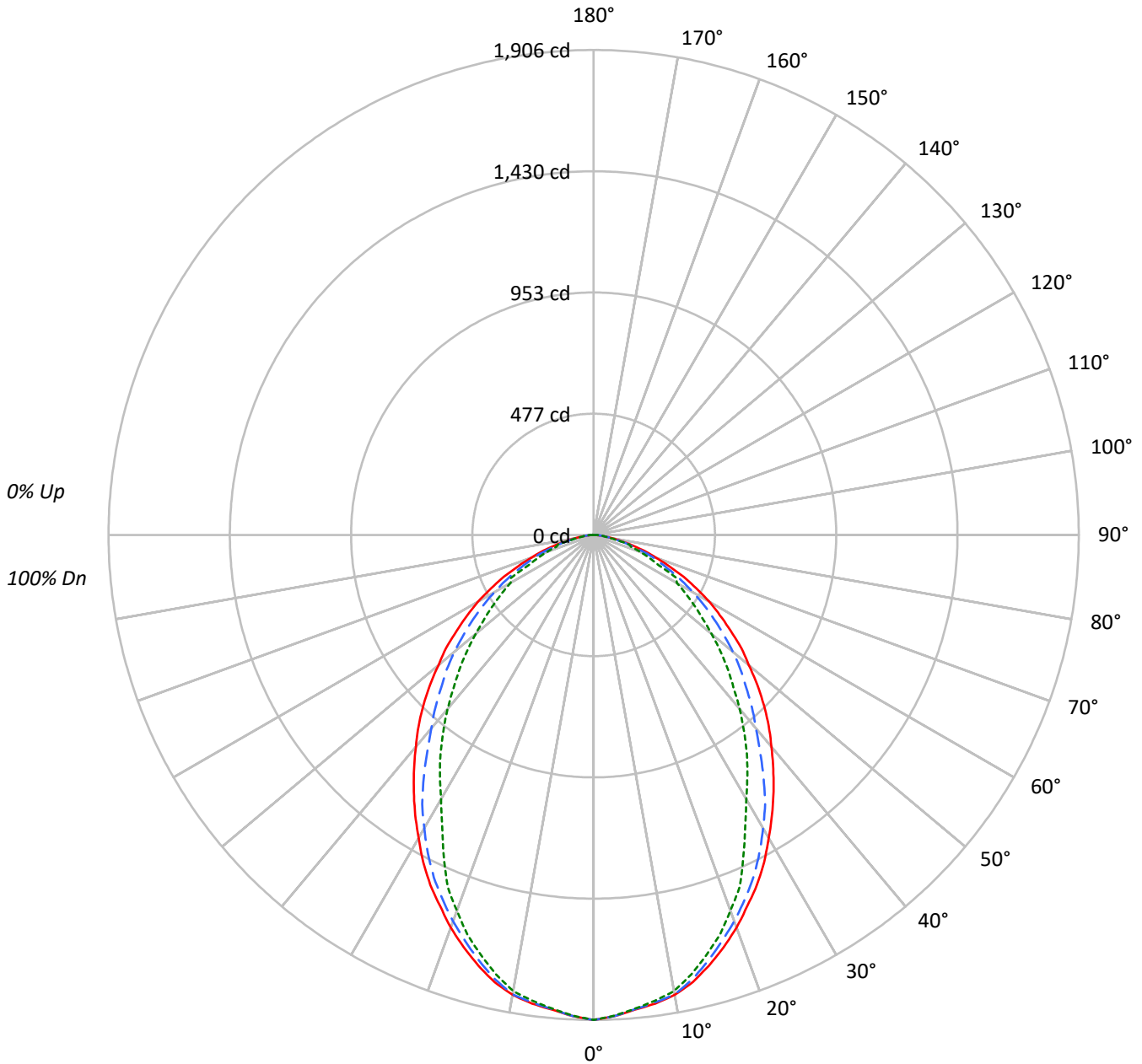
Lumens per Lamp: N/A
Luminaire Lumens: 3742.0 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5129	5129	5129
5°	5060	5054	5048
10°	5016	5010	4974
15°	4881	4831	4764
20°	4701	4625	4499
25°	4508	4410	4135
30°	4273	4136	3725
35°	4047	3822	3446
40°	3816	3483	3135
45°	3597	3220	2834
50°	3330	2989	2528
55°	3081	2708	2264
60°	2823	2419	2028
65°	2483	2118	1796
70°	2046	1855	1526
75°	1627	1420	1489
80°	1093	1024	956
85°	679	815	954



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.4	4.7
10°-20°	487.0	13.0
20°-30°	674.2	18.0
30°-40°	718.8	19.2
40°-50°	655.8	17.5
50°-60°	513.8	13.7
60°-70°	334.8	8.9
70°-80°	148.3	4.0
80°-90°	31.8	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°	1338.5	35.8
0°-40°	2057.4	55.0
0°-60°	3226.9	86.2
0°-90°	3742.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3742.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1906	1906	1906	1906	1906	
5°	1873	1871	1871	1869	1869	178
15°	1752	1752	1734	1717	1710	493
25°	1518	1510	1485	1432	1393	697
35°	1232	1223	1164	1075	1049	770
45°	945	926	846	776	745	728
55°	657	637	577	509	483	589
65°	390	368	333	339	282	384
75°	156	145	137	130	143	168
85°	22	24	26	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1906.1	1906.1	1906.1	1906.1	1906.1
2.5°	1892.9	1892.9	1892.9	1890.7	1890.7
5°	1873.1	1870.9	1870.9	1868.7	1868.7
7.5°	1857.6	1855.4	1853.2	1851.0	1846.6
10°	1835.6	1835.6	1833.4	1822.4	1820.2
12.5°	1800.4	1798.1	1789.3	1773.9	1769.5
15°	1751.9	1751.9	1734.2	1716.6	1710.0
17.5°	1699.0	1696.8	1674.7	1657.1	1648.3
20°	1641.7	1637.3	1615.2	1586.6	1571.2
22.5°	1577.8	1577.8	1551.3	1513.9	1498.5
25°	1518.3	1509.5	1485.2	1432.3	1392.7
27.5°	1450.0	1436.8	1410.3	1335.4	1289.1
30°	1375.1	1368.4	1331.0	1234.0	1198.8
32.5°	1304.5	1293.5	1253.9	1152.5	1123.8
35°	1231.8	1223.0	1163.5	1075.4	1048.9
37.5°	1159.1	1148.1	1073.2	1002.6	969.6
40°	1086.4	1073.2	991.6	927.7	892.5
42.5°	1018.1	1000.4	921.1	852.8	813.1
45°	945.3	925.5	846.2	775.7	744.8
47.5°	872.6	855.0	782.3	709.6	674.3
50°	795.5	780.1	714.0	641.3	603.8
52.5°	731.6	707.4	643.5	570.7	539.9
55°	656.7	636.8	577.3	509.0	482.6
57.5°	588.4	568.5	513.4	449.5	427.5
60°	524.5	495.8	449.5	394.4	376.8
62.5°	453.9	431.9	392.2	346.0	368.0
65°	390.0	368.0	332.7	339.4	282.1
67.5°	319.5	308.5	277.7	246.8	238.0
70°	260.0	246.8	235.8	202.7	193.9
72.5°	207.1	193.9	178.5	160.9	154.3
75°	156.5	145.4	136.6	130.0	143.2
77.5°	108.0	103.6	97.0	90.3	88.1
80°	70.5	68.3	66.1	63.9	61.7
82.5°	41.9	41.9	41.9	41.9	41.9
85°	22.0	24.2	26.4	28.6	30.9
87.5°	13.2	13.2	15.4	17.6	19.8
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)