

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: P546433

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-81-86-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: P546433
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-24-4-LD4-1HI-35-UNV-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

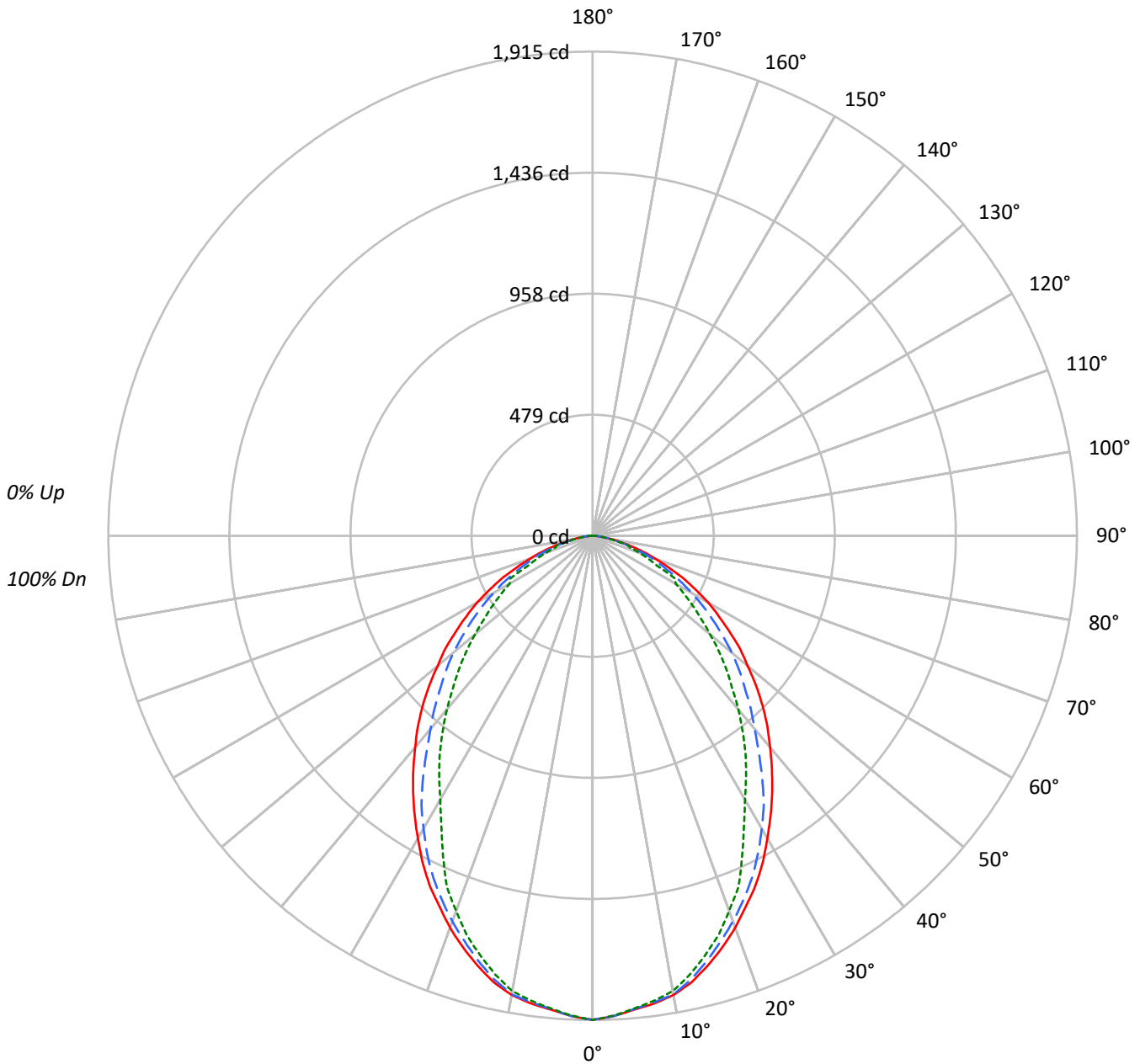
Lumens per Lamp: N/A
Luminaire Lumens: 3759.0 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	2576	2576	2576
5°	2541	2538	2535
10°	2519	2516	2498
15°	2451	2427	2393
20°	2361	2323	2260
25°	2264	2215	2077
30°	2146	2077	1871
35°	2032	1920	1731
40°	1917	1750	1575
45°	1807	1617	1424
50°	1673	1501	1270
55°	1548	1361	1137
60°	1418	1215	1019
65°	1247	1064	902
70°	1028	932	766
75°	817	713	748
80°	549	514	480
85°	341	411	479



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.2	4.7
10°-20°	489.2	13.0
20°-30°	677.2	18.0
30°-40°	722.1	19.2
40°-50°	658.8	17.5
50°-60°	516.1	13.7
60°-70°	336.4	8.9
70°-80°	149.0	4.0
80°-90°	32.0	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°	1344.6	35.8
0°-40°	2066.7	55.0
0°-60°	3241.6	86.2
0°-90°	3759.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3759.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1915	1915	1915	1915	1915	
5°	1882	1879	1879	1877	1877	179
15°	1760	1760	1742	1724	1718	495
25°	1525	1516	1492	1439	1399	700
35°	1237	1229	1169	1080	1054	774
45°	950	930	850	779	748	731
55°	660	640	580	511	485	592
65°	392	370	334	341	283	386
75°	157	146	137	131	144	168
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1914.8	1914.8	1914.8	1914.8	1914.8
2.5°	1901.5	1901.5	1901.5	1899.3	1899.3
5°	1881.6	1879.4	1879.4	1877.2	1877.2
7.5°	1866.1	1863.9	1861.7	1859.4	1855.0
10°	1843.9	1843.9	1841.7	1830.7	1828.5
12.5°	1808.5	1806.3	1797.5	1782.0	1777.5
15°	1759.8	1759.8	1742.1	1724.4	1717.8
17.5°	1706.7	1704.5	1682.4	1664.6	1655.8
20°	1649.1	1644.7	1622.6	1593.8	1578.3
22.5°	1585.0	1585.0	1558.4	1520.8	1505.3
25°	1525.2	1516.3	1492.0	1438.9	1399.0
27.5°	1456.6	1443.3	1416.7	1341.5	1295.0
30°	1381.3	1374.7	1337.0	1239.6	1204.2
32.5°	1310.5	1299.4	1259.6	1157.7	1128.9
35°	1237.4	1228.6	1168.8	1080.2	1053.7
37.5°	1164.4	1153.3	1078.0	1007.2	974.0
40°	1091.3	1078.0	996.1	931.9	896.5
42.5°	1022.7	1005.0	925.3	856.7	816.8
45°	949.6	929.7	850.0	779.2	748.2
47.5°	876.6	858.9	785.8	712.8	677.4
50°	799.1	783.6	717.2	644.2	606.5
52.5°	734.9	710.6	646.4	573.3	542.3
55°	659.7	639.7	580.0	511.3	484.8
57.5°	591.0	571.1	515.8	451.6	429.4
60°	526.8	498.1	451.6	396.2	378.5
62.5°	456.0	433.9	394.0	347.5	369.7
65°	391.8	369.7	334.3	340.9	283.3
67.5°	321.0	309.9	278.9	247.9	239.1
70°	261.2	247.9	236.9	203.7	194.8
72.5°	208.1	194.8	179.3	161.6	155.0
75°	157.2	146.1	137.2	130.6	143.9
77.5°	108.5	104.0	97.4	90.8	88.5
80°	70.8	68.6	66.4	64.2	62.0
82.5°	42.1	42.1	42.1	42.1	42.1
85°	22.1	24.3	26.6	28.8	31.0
87.5°	13.3	13.3	15.5	17.7	19.9
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)