

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: P546501

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-81-96-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: P546501
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-50-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

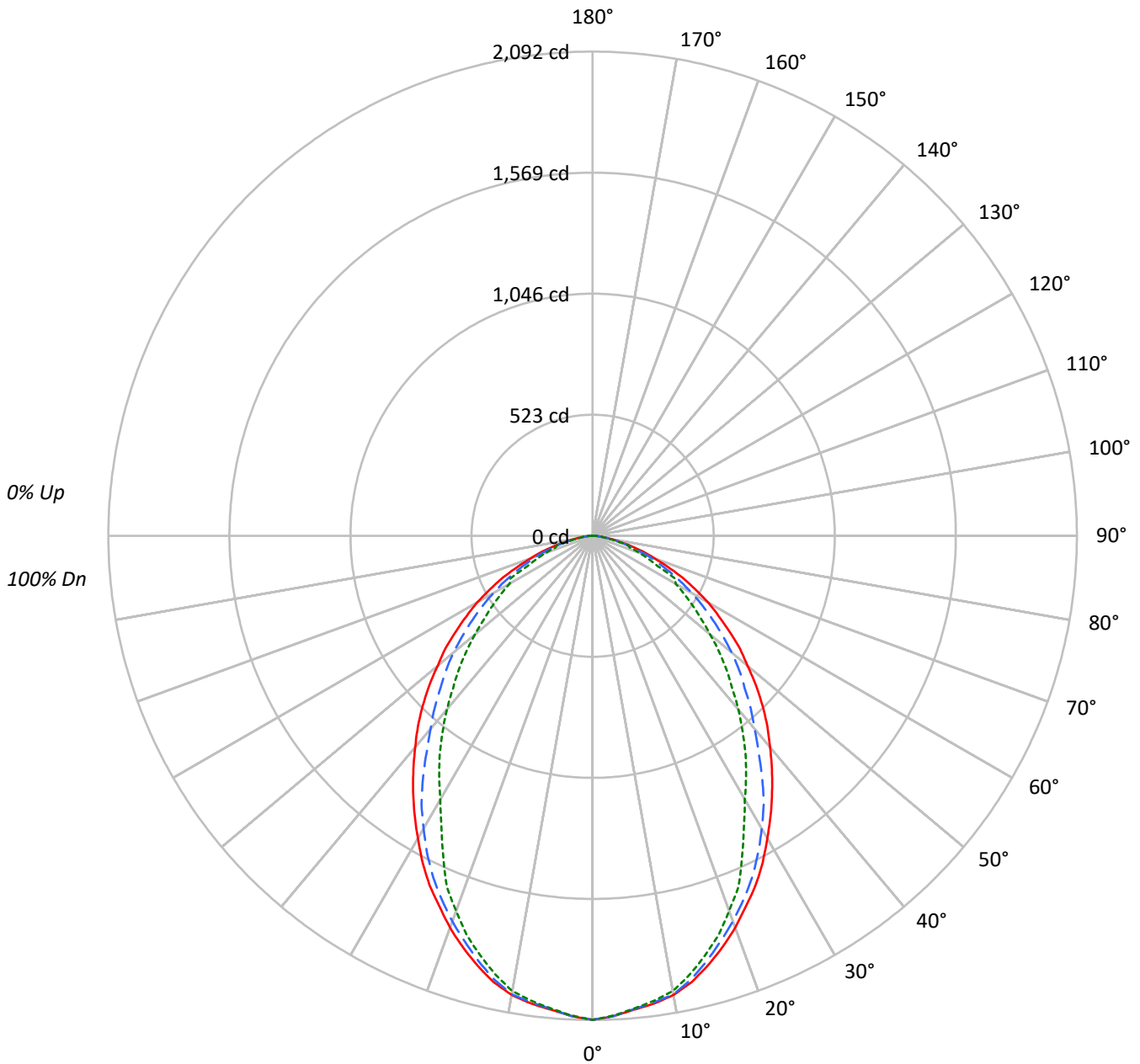
Lumens per Lamp: N/A
Luminaire Lumens: 4106.0 lumens
Efficiency: N/A
Efficacy: 95.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				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°	2814	2814	2814
5°	2776	2773	2769
10°	2752	2748	2729
15°	2678	2651	2614
20°	2579	2538	2468
25°	2473	2419	2269
30°	2344	2269	2044
35°	2220	2097	1891
40°	2094	1911	1720
45°	1974	1767	1555
50°	1827	1640	1387
55°	1690	1486	1242
60°	1549	1327	1113
65°	1363	1162	985
70°	1122	1018	837
75°	893	779	817
80°	600	562	525
85°	374	448	523



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.7	4.7
10°-20°	534.3	13.0
20°-30°	739.7	18.0
30°-40°	788.8	19.2
40°-50°	719.6	17.5
50°-60°	563.7	13.7
60°-70°	367.4	8.9
70°-80°	162.8	4.0
80°-90°	34.9	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°	1468.8	35.8
0°-40°	2257.5	55.0
0°-60°	3540.9	86.2
0°-90°	4106.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4106.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2092	2092	2092	2092	2092	
5°	2055	2053	2053	2050	2050	195
15°	1922	1922	1903	1884	1876	540
25°	1666	1656	1630	1572	1528	765
35°	1352	1342	1277	1180	1151	845
45°	1037	1016	928	851	817	799
55°	721	699	634	559	530	646
65°	428	404	365	372	310	422
75°	172	160	150	143	157	184
85°	24	27	29	31	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2091.5	2091.5	2091.5	2091.5	2091.5
2.5°	2077.0	2077.0	2077.0	2074.6	2074.6
5°	2055.3	2052.9	2052.9	2050.4	2050.4
7.5°	2038.3	2035.9	2033.5	2031.1	2026.3
10°	2014.2	2014.2	2011.7	1999.7	1997.2
12.5°	1975.5	1973.1	1963.4	1946.5	1941.6
15°	1922.3	1922.3	1902.9	1883.6	1876.3
17.5°	1864.3	1861.8	1837.7	1818.3	1808.6
20°	1801.4	1796.5	1772.4	1740.9	1724.0
22.5°	1731.3	1731.3	1702.2	1661.1	1644.2
25°	1666.0	1656.3	1629.7	1571.7	1528.2
27.5°	1591.0	1576.5	1547.5	1465.3	1414.5
30°	1508.8	1501.6	1460.5	1354.1	1315.4
32.5°	1431.4	1419.3	1375.8	1264.6	1233.2
35°	1351.6	1342.0	1276.7	1180.0	1151.0
37.5°	1271.9	1259.8	1177.5	1100.2	1063.9
40°	1192.1	1177.5	1088.1	1018.0	979.3
42.5°	1117.1	1097.8	1010.7	935.8	892.2
45°	1037.3	1015.5	928.5	851.1	817.3
47.5°	957.5	938.2	858.4	778.6	739.9
50°	872.9	856.0	783.4	703.6	662.5
52.5°	802.8	776.2	706.0	626.3	592.4
55°	720.6	698.8	633.5	558.6	529.5
57.5°	645.6	623.8	563.4	493.3	469.1
60°	575.5	544.0	493.3	432.8	413.5
62.5°	498.1	473.9	430.4	379.6	403.8
65°	428.0	403.8	365.1	372.4	309.5
67.5°	350.6	338.5	304.7	270.8	261.1
70°	285.3	270.8	258.7	222.5	212.8
72.5°	227.3	212.8	195.9	176.5	169.3
75°	171.7	159.6	149.9	142.7	157.2
77.5°	118.5	113.6	106.4	99.1	96.7
80°	77.4	75.0	72.5	70.1	67.7
82.5°	45.9	45.9	45.9	45.9	45.9
85°	24.2	26.6	29.0	31.4	33.9
87.5°	14.5	14.5	16.9	19.3	21.8
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)