

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: P546816

Luminaire Tested: **FMR-24-4-LD4-2LO-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: P546816
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-LD4-2LO-40-UNV-81-85-EDD
Description: 2X4 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

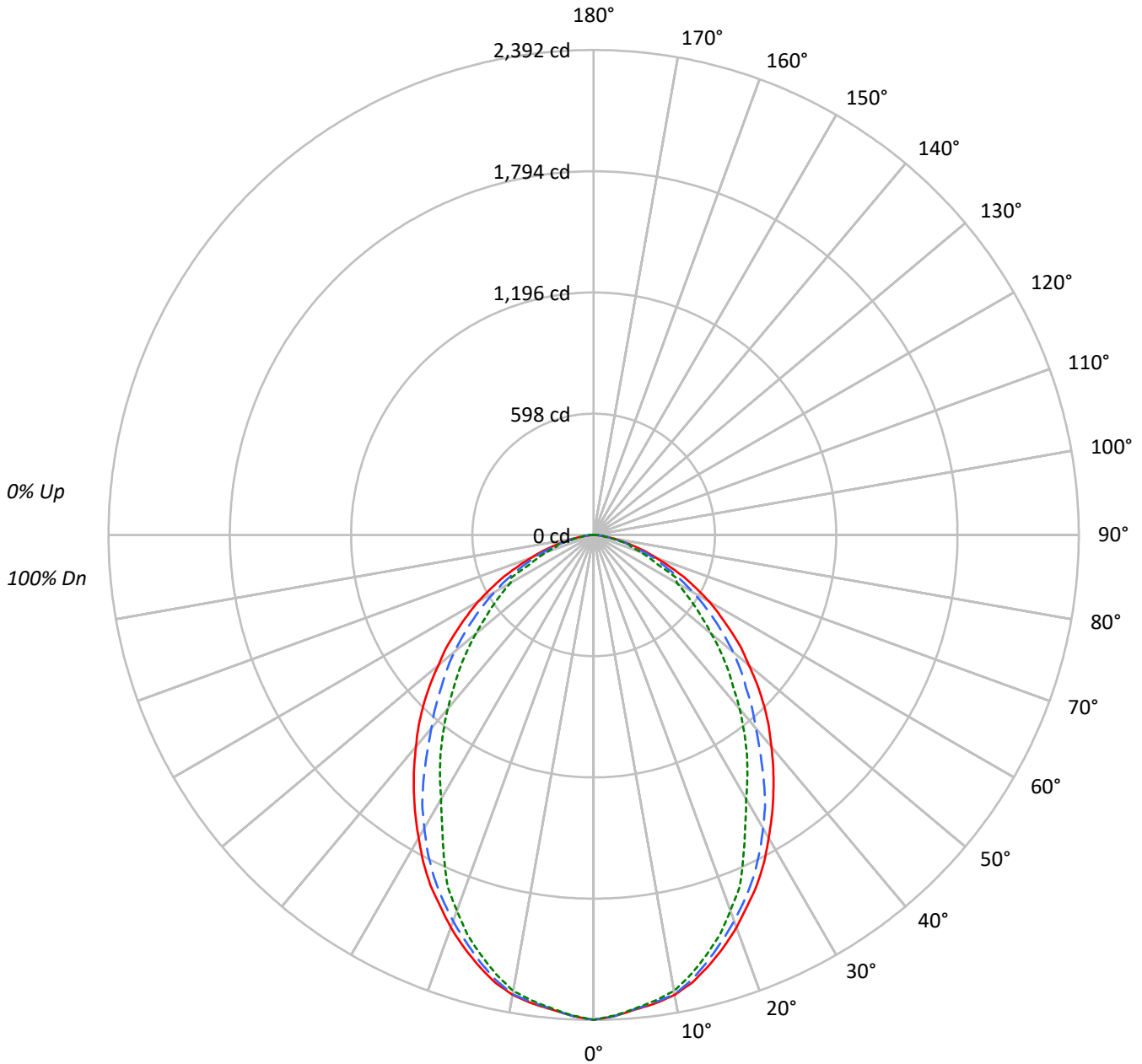
Lumens per Lamp: N/A
Luminaire Lumens: 4695.0 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3218	3218	3218
5°	3174	3170	3167
10°	3147	3143	3120
15°	3062	3031	2989
20°	2949	2902	2823
25°	2828	2767	2594
30°	2680	2595	2337
35°	2539	2398	2162
40°	2394	2185	1967
45°	2257	2020	1778
50°	2089	1875	1586
55°	1933	1699	1420
60°	1771	1518	1272
65°	1558	1329	1127
70°	1283	1164	957
75°	1020	891	934
80°	686	642	600
85°	426	513	597



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.6	4.7
10°-20°	611.0	13.0
20°-30°	845.9	18.0
30°-40°	901.9	19.2
40°-50°	822.8	17.5
50°-60°	644.6	13.7
60°-70°	420.1	8.9
70°-80°	186.1	4.0
80°-90°	40.0	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°	1679.4	35.8
0°-40°	2581.4	55.0
0°-60°	4048.8	86.2
0°-90°	4695.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4695.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2392	2392	2392	2392	2392	
5°	2350	2347	2347	2345	2345	223
15°	2198	2198	2176	2154	2146	618
25°	1905	1894	1864	1797	1747	875
35°	1546	1534	1460	1349	1316	966
45°	1186	1161	1062	973	934	914
55°	824	799	724	639	606	739
65°	489	462	418	426	354	482
75°	196	182	171	163	180	210
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2391.6	2391.6	2391.6	2391.6	2391.6
2.5°	2375.0	2375.0	2375.0	2372.2	2372.2
5°	2350.1	2347.3	2347.3	2344.6	2344.6
7.5°	2330.7	2328.0	2325.2	2322.4	2316.9
10°	2303.1	2303.1	2300.3	2286.5	2283.7
12.5°	2258.9	2256.1	2245.0	2225.7	2220.2
15°	2198.0	2198.0	2175.9	2153.8	2145.5
17.5°	2131.7	2128.9	2101.3	2079.1	2068.1
20°	2059.8	2054.3	2026.6	1990.7	1971.3
22.5°	1979.6	1979.6	1946.4	1899.4	1880.1
25°	1905.0	1893.9	1863.5	1797.1	1747.4
27.5°	1819.3	1802.7	1769.5	1675.5	1617.4
30°	1725.2	1717.0	1670.0	1548.3	1504.1
32.5°	1636.8	1622.9	1573.2	1446.0	1410.1
35°	1545.5	1534.5	1459.8	1349.2	1316.1
37.5°	1454.3	1440.5	1346.5	1258.0	1216.5
40°	1363.1	1346.5	1244.2	1164.0	1119.8
42.5°	1277.3	1255.2	1155.7	1070.0	1020.2
45°	1186.1	1161.2	1061.7	973.2	934.5
47.5°	1094.9	1072.8	981.5	890.3	846.0
50°	998.1	978.7	895.8	804.6	757.6
52.5°	917.9	887.5	807.3	716.1	677.4
55°	823.9	799.0	724.4	638.7	605.5
57.5°	738.2	713.3	644.2	564.0	536.4
60°	658.0	622.1	564.0	494.9	472.8
62.5°	569.6	541.9	492.1	434.1	461.7
65°	489.4	461.7	417.5	425.8	353.9
67.5°	400.9	387.1	348.4	309.7	298.6
70°	326.2	309.7	295.8	254.4	243.3
72.5°	259.9	243.3	224.0	201.8	193.5
75°	196.3	182.5	171.4	163.1	179.7
77.5°	135.5	129.9	121.7	113.4	110.6
80°	88.5	85.7	82.9	80.2	77.4
82.5°	52.5	52.5	52.5	52.5	52.5
85°	27.6	30.4	33.2	35.9	38.7
87.5°	16.6	16.6	19.4	22.1	24.9
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)