

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: P546529

Luminaire Tested: **FMR-24-4-LD4-1LO-40-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: P546529
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-LD4-1LO-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

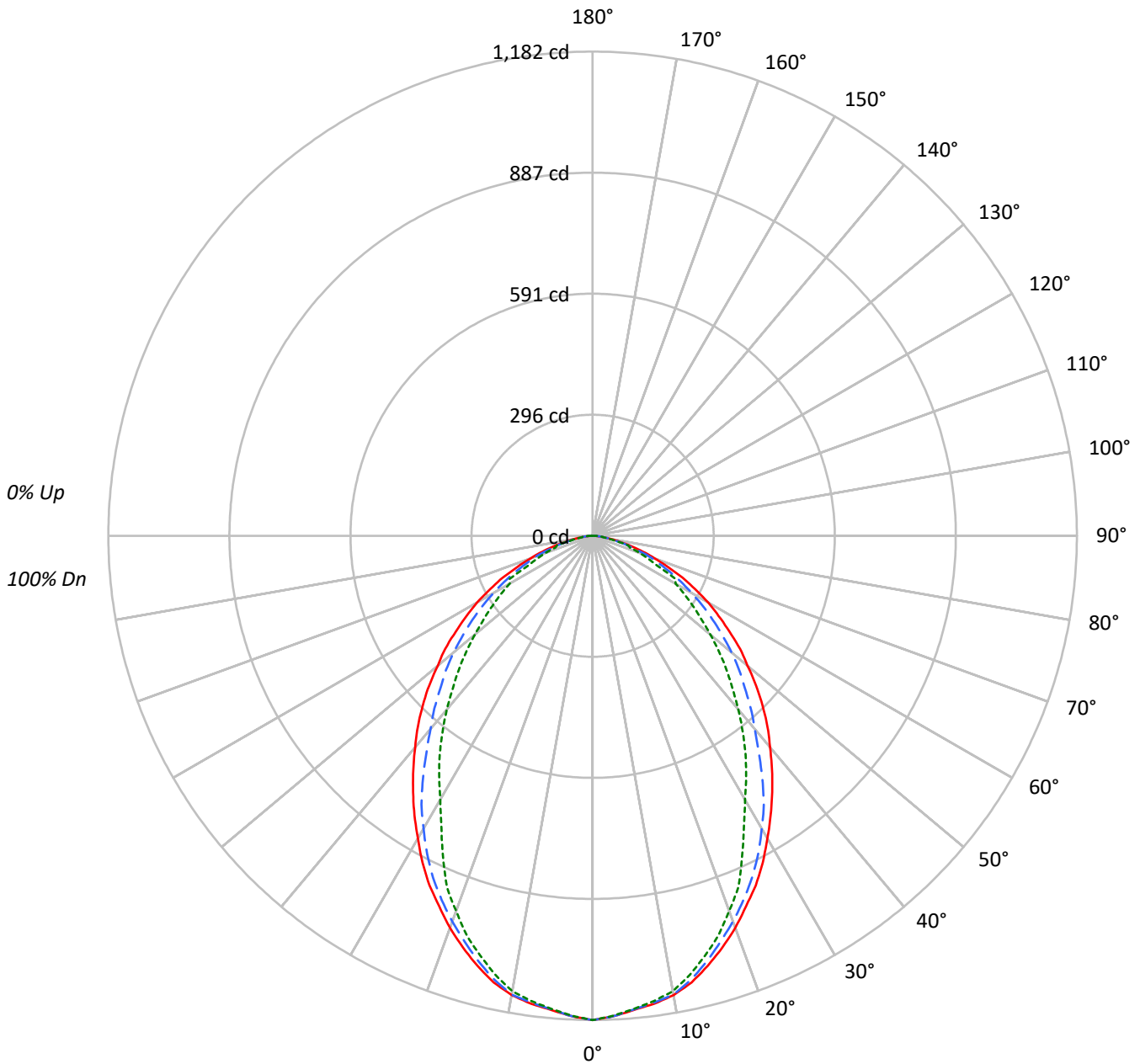
Lumens per Lamp: N/A
Luminaire Lumens: 2321.0 lumens
Efficiency: N/A
Efficacy: 99.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	1591	1591	1591
5°	1569	1567	1566
10°	1555	1554	1542
15°	1514	1498	1477
20°	1458	1435	1395
25°	1398	1368	1282
30°	1325	1283	1155
35°	1255	1185	1069
40°	1183	1080	972
45°	1116	999	879
50°	1033	927	784
55°	955	840	702
60°	875	750	629
65°	770	657	557
70°	635	575	473
75°	504	440	462
80°	339	318	297
85°	211	253	295



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	4.7
10°-20°	302.0	13.0
20°-30°	418.2	18.0
30°-40°	445.9	19.2
40°-50°	406.8	17.5
50°-60°	318.7	13.7
60°-70°	207.7	8.9
70°-80°	92.0	4.0
80°-90°	19.8	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°	830.2	35.8
0°-40°	1276.1	55.0
0°-60°	2001.5	86.2
0°-90°	2321.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2321.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1182	1182	1182	1182	1182	
5°	1162	1160	1160	1159	1159	110
15°	1087	1087	1076	1065	1061	305
25°	942	936	921	888	864	432
35°	764	759	722	667	651	478
45°	586	574	525	481	462	452
55°	407	395	358	316	299	365
65°	242	228	206	210	175	238
75°	97	90	85	81	89	104
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1182.3	1182.3	1182.3	1182.3	1182.3
2.5°	1174.1	1174.1	1174.1	1172.7	1172.7
5°	1161.8	1160.4	1160.4	1159.1	1159.1
7.5°	1152.2	1150.8	1149.5	1148.1	1145.4
10°	1138.5	1138.5	1137.2	1130.3	1129.0
12.5°	1116.7	1115.3	1109.8	1100.3	1097.5
15°	1086.6	1086.6	1075.7	1064.7	1060.6
17.5°	1053.8	1052.4	1038.8	1027.8	1022.4
20°	1018.3	1015.5	1001.9	984.1	974.5
22.5°	978.6	978.6	962.2	939.0	929.4
25°	941.7	936.3	921.2	888.4	863.8
27.5°	899.4	891.2	874.8	828.3	799.6
30°	852.9	848.8	825.6	765.4	743.5
32.5°	809.1	802.3	777.7	714.8	697.1
35°	764.0	758.6	721.7	667.0	650.6
37.5°	718.9	712.1	665.6	621.9	601.4
40°	673.8	665.6	615.1	575.4	553.6
42.5°	631.5	620.5	571.3	529.0	504.4
45°	586.4	574.1	524.9	481.1	462.0
47.5°	541.3	530.3	485.2	440.1	418.2
50°	493.4	483.8	442.8	397.7	374.5
52.5°	453.8	438.7	399.1	354.0	334.9
55°	407.3	395.0	358.1	315.7	299.3
57.5°	364.9	352.6	318.5	278.8	265.2
60°	325.3	307.5	278.8	244.7	233.7
62.5°	281.6	267.9	243.3	214.6	228.3
65°	241.9	228.3	206.4	210.5	175.0
67.5°	198.2	191.4	172.2	153.1	147.6
70°	161.3	153.1	146.2	125.7	120.3
72.5°	128.5	120.3	110.7	99.8	95.7
75°	97.0	90.2	84.7	80.6	88.8
77.5°	67.0	64.2	60.1	56.0	54.7
80°	43.7	42.4	41.0	39.6	38.3
82.5°	26.0	26.0	26.0	26.0	26.0
85°	13.7	15.0	16.4	17.8	19.1
87.5°	8.2	8.2	9.6	10.9	12.3
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)