

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: P546675

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-93-88-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: P546675
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-LD4-1STD-50-UNV-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

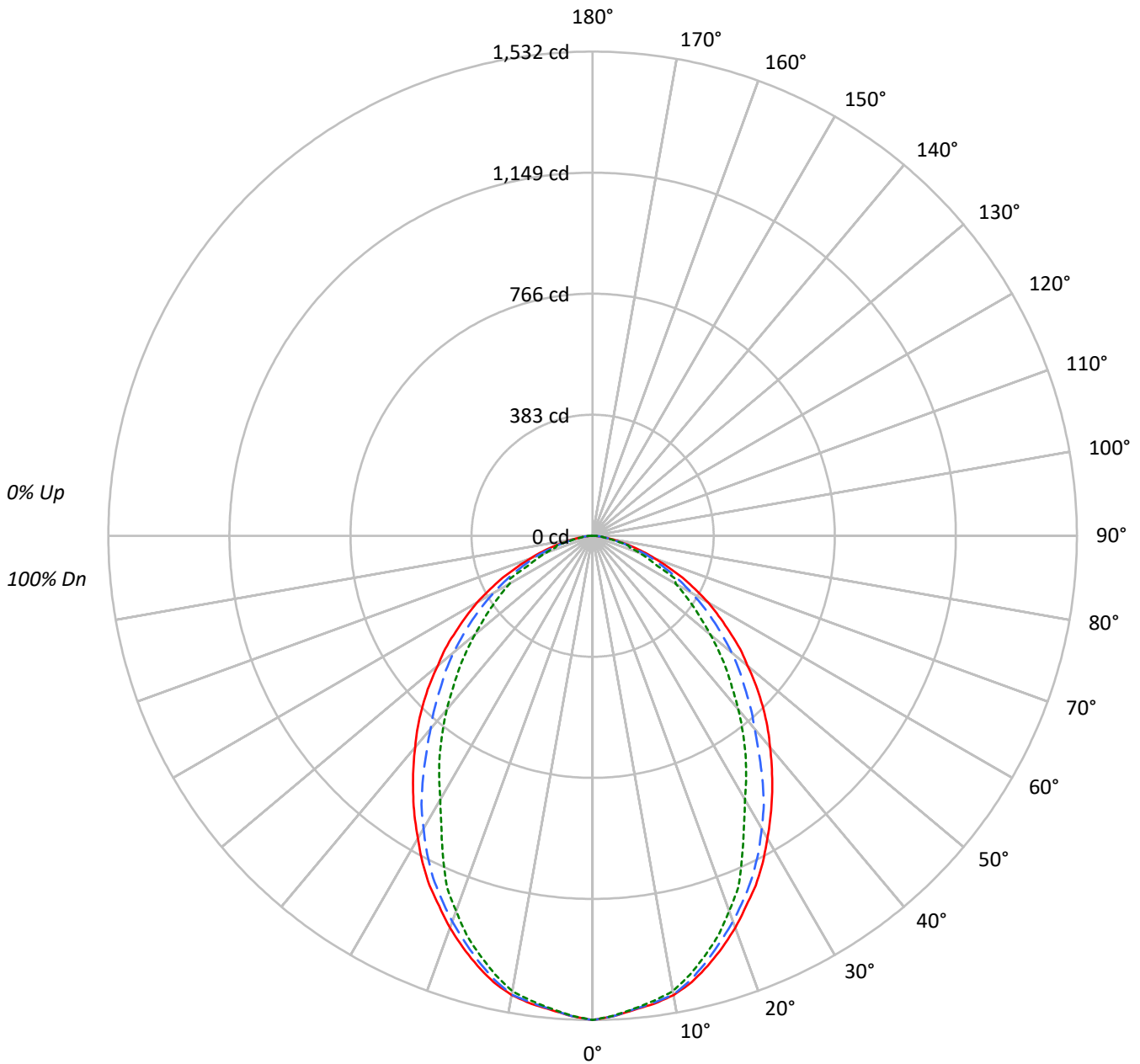
Lumens per Lamp: N/A
Luminaire Lumens: 3008.0 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	2062	2062	2062
5°	2034	2031	2029
10°	2016	2014	1999
15°	1962	1942	1915
20°	1890	1859	1808
25°	1812	1772	1662
30°	1717	1662	1497
35°	1626	1536	1385
40°	1534	1400	1260
45°	1446	1294	1139
50°	1339	1201	1016
55°	1238	1089	910
60°	1135	973	815
65°	998	852	722
70°	822	745	613
75°	654	571	598
80°	439	411	384
85°	273	329	383



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.6	4.7
10°-20°	391.4	13.0
20°-30°	541.9	18.0
30°-40°	577.8	19.2
40°-50°	527.2	17.5
50°-60°	413.0	13.7
60°-70°	269.2	8.9
70°-80°	119.3	4.0
80°-90°	25.6	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°	1076.0	35.8
0°-40°	1653.8	55.0
0°-60°	2594.0	86.2
0°-90°	3008.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3008.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1532	1532	1532	1532	1532	
5°	1506	1504	1504	1502	1502	143
15°	1408	1408	1394	1380	1375	396
25°	1220	1213	1194	1151	1120	560
35°	990	983	935	864	843	619
45°	760	744	680	624	599	585
55°	528	512	464	409	388	473
65°	314	296	268	273	227	309
75°	126	117	110	104	115	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1532.2	1532.2	1532.2	1532.2	1532.2
2.5°	1521.6	1521.6	1521.6	1519.8	1519.8
5°	1505.7	1503.9	1503.9	1502.1	1502.1
7.5°	1493.3	1491.5	1489.7	1488.0	1484.4
10°	1475.6	1475.6	1473.8	1464.9	1463.2
12.5°	1447.2	1445.4	1438.4	1426.0	1422.4
15°	1408.2	1408.2	1394.1	1379.9	1374.6
17.5°	1365.7	1364.0	1346.2	1332.1	1325.0
20°	1319.7	1316.1	1298.4	1275.4	1263.0
22.5°	1268.3	1268.3	1247.0	1216.9	1204.5
25°	1220.5	1213.4	1193.9	1151.4	1119.5
27.5°	1165.6	1154.9	1133.7	1073.5	1036.3
30°	1105.3	1100.0	1069.9	992.0	963.6
32.5°	1048.7	1039.8	1007.9	926.4	903.4
35°	990.2	983.1	935.3	864.4	843.2
37.5°	931.7	922.9	862.7	806.0	779.4
40°	873.3	862.7	797.1	745.7	717.4
42.5°	818.4	804.2	740.4	685.5	653.6
45°	759.9	744.0	680.2	623.5	598.7
47.5°	701.5	687.3	628.8	570.4	542.0
50°	639.5	627.1	573.9	515.5	485.4
52.5°	588.1	568.6	517.2	458.8	434.0
55°	527.9	511.9	464.1	409.2	387.9
57.5°	473.0	457.0	412.7	361.4	343.6
60°	421.6	398.6	361.4	317.1	302.9
62.5°	364.9	347.2	315.3	278.1	295.8
65°	313.5	295.8	267.5	272.8	226.7
67.5°	256.8	248.0	223.2	198.4	191.3
70°	209.0	198.4	189.5	163.0	155.9
72.5°	166.5	155.9	143.5	129.3	124.0
75°	125.8	116.9	109.8	104.5	115.1
77.5°	86.8	83.3	77.9	72.6	70.9
80°	56.7	54.9	53.1	51.4	49.6
82.5°	33.7	33.7	33.7	33.7	33.7
85°	17.7	19.5	21.3	23.0	24.8
87.5°	10.6	10.6	12.4	14.2	15.9
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)