

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: P589250

Luminaire Tested: **FMR-24-2-LD4-2STD-50-UNV-81-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589250  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-2STD-50-UNV-81-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

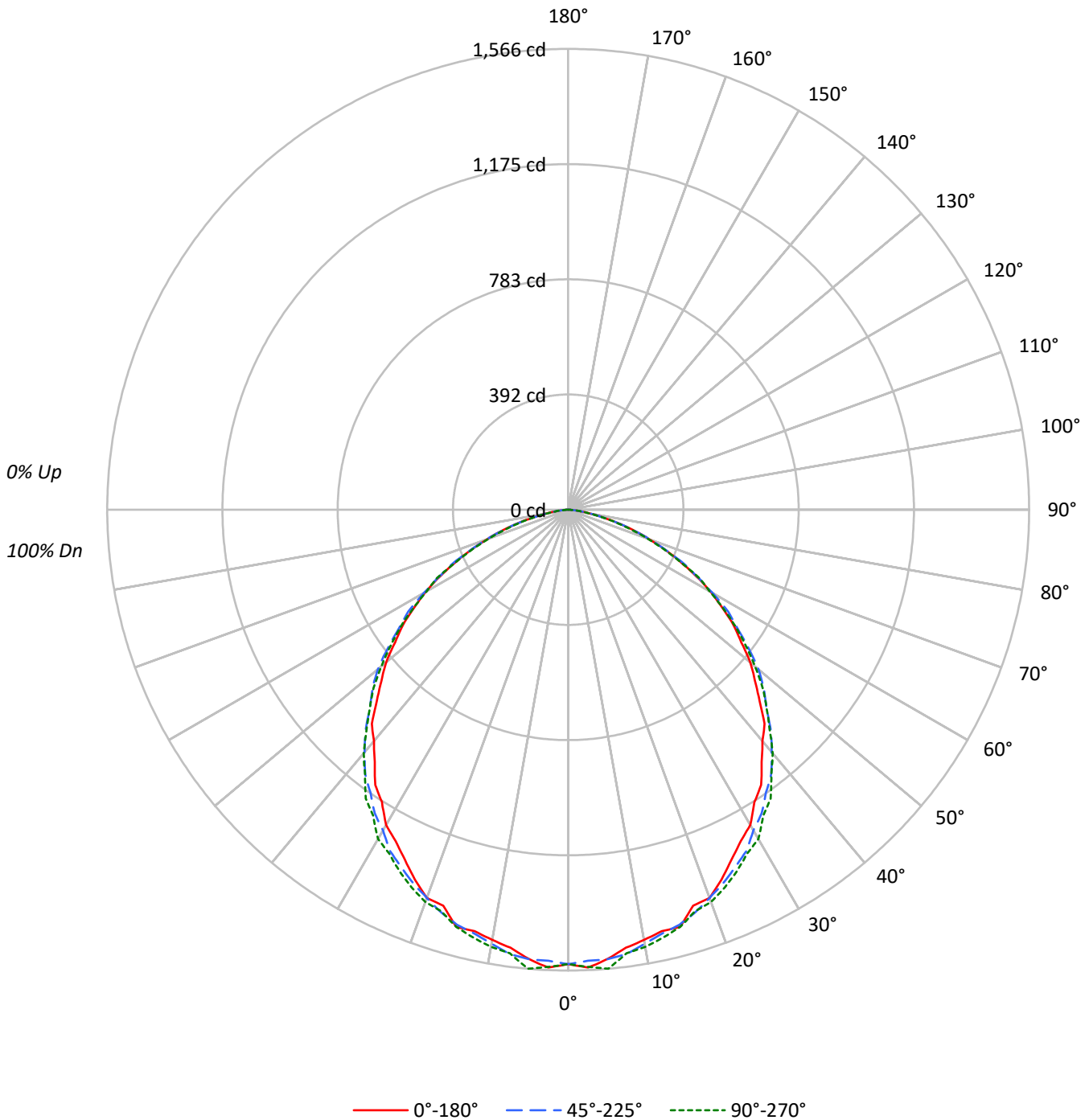
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3891.0 lumens  
Efficiency: N/A  
Efficacy: 116.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' 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	
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4155	4155	4155
5°	4141	4142	4230
10°	4057	4092	4121
15°	4089	4067	4089
20°	4020	4020	4063
25°	3896	3981	4025
30°	3843	3910	4014
35°	3752	3850	3937
40°	3606	3780	3797
45°	3497	3621	3627
50°	3382	3535	3467
55°	3223	3286	3262
60°	3013	3043	2989
65°	2687	2756	2668
70°	2305	2313	2249
75°	1826	1822	1751
80°	1223	1189	1144
85°	664	658	614



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.2	3.7
10°-20°	411.6	10.6
20°-30°	616.6	15.8
30°-40°	730.8	18.8
40°-50°	732.2	18.8
50°-60°	621.5	16.0
60°-70°	419.0	10.8
70°-80°	184.1	4.7
80°-90°	29.9	0.8
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°	1173.4	30.2
0°-40°	1904.3	48.9
0°-60°	3257.9	83.7
0°-90°	3891.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3891.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1544	1544	1544	1544	1544	
5°	1533	1529	1534	1529	1566	145
15°	1468	1451	1460	1467	1468	409
25°	1312	1319	1341	1358	1356	607
35°	1142	1146	1172	1199	1198	709
45°	919	936	952	976	953	711
55°	687	682	700	696	695	611
65°	422	416	433	416	419	420
75°	176	172	175	163	168	188
85°	22	21	21	21	20	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1543.9	1543.9	1543.9	1543.9	1543.9
2.5°	1557.2	1545.4	1534.5	1547.2	1555.0
5°	1532.9	1529.3	1533.5	1528.9	1565.8
7.5°	1501.4	1515.1	1523.1	1518.1	1520.3
10°	1484.6	1479.9	1497.6	1510.0	1508.2
12.5°	1466.7	1473.9	1474.9	1488.2	1489.4
15°	1467.7	1450.8	1459.7	1467.3	1467.9
17.5°	1410.7	1429.0	1435.2	1452.6	1431.0
20°	1403.7	1390.4	1403.7	1421.5	1418.7
22.5°	1360.9	1345.9	1374.6	1390.4	1389.4
25°	1312.2	1319.4	1340.9	1358.5	1355.7
27.5°	1269.6	1277.9	1308.6	1332.8	1317.2
30°	1236.7	1232.5	1258.4	1279.9	1291.9
32.5°	1177.9	1193.0	1223.3	1244.6	1233.3
35°	1142.2	1145.6	1172.1	1199.2	1198.4
37.5°	1079.8	1095.5	1132.8	1140.4	1133.4
40°	1026.6	1042.3	1076.0	1084.2	1080.8
42.5°	987.3	990.1	1019.0	1028.4	1013.4
45°	918.9	936.1	951.6	976.1	953.0
47.5°	860.7	868.7	902.2	908.8	896.6
50°	807.9	810.7	844.4	836.2	828.2
52.5°	741.5	753.3	772.2	770.6	761.3
55°	686.9	682.3	700.3	695.5	695.3
57.5°	621.3	629.3	644.1	636.5	624.3
60°	559.9	560.1	565.5	556.9	555.3
62.5°	491.6	494.0	495.1	484.6	501.7
65°	422.0	416.4	432.8	416.2	419.0
67.5°	358.0	360.8	359.2	348.8	352.8
70°	293.0	296.6	294.0	282.3	285.8
72.5°	233.6	229.2	232.0	217.3	224.1
75°	175.6	172.0	175.2	162.9	168.4
77.5°	119.6	122.4	120.4	113.8	117.6
80°	78.9	76.7	76.7	73.0	73.8
82.5°	46.0	43.9	43.3	42.1	43.9
85°	21.5	20.9	21.3	20.7	19.9
87.5°	7.8	8.0	8.0	7.6	7.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)