

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: P589165

Luminaire Tested: **FMR-24-2-LD4-2LO-50-UNV-93-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589165  
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-LD4-2LO-50-UNV-93-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

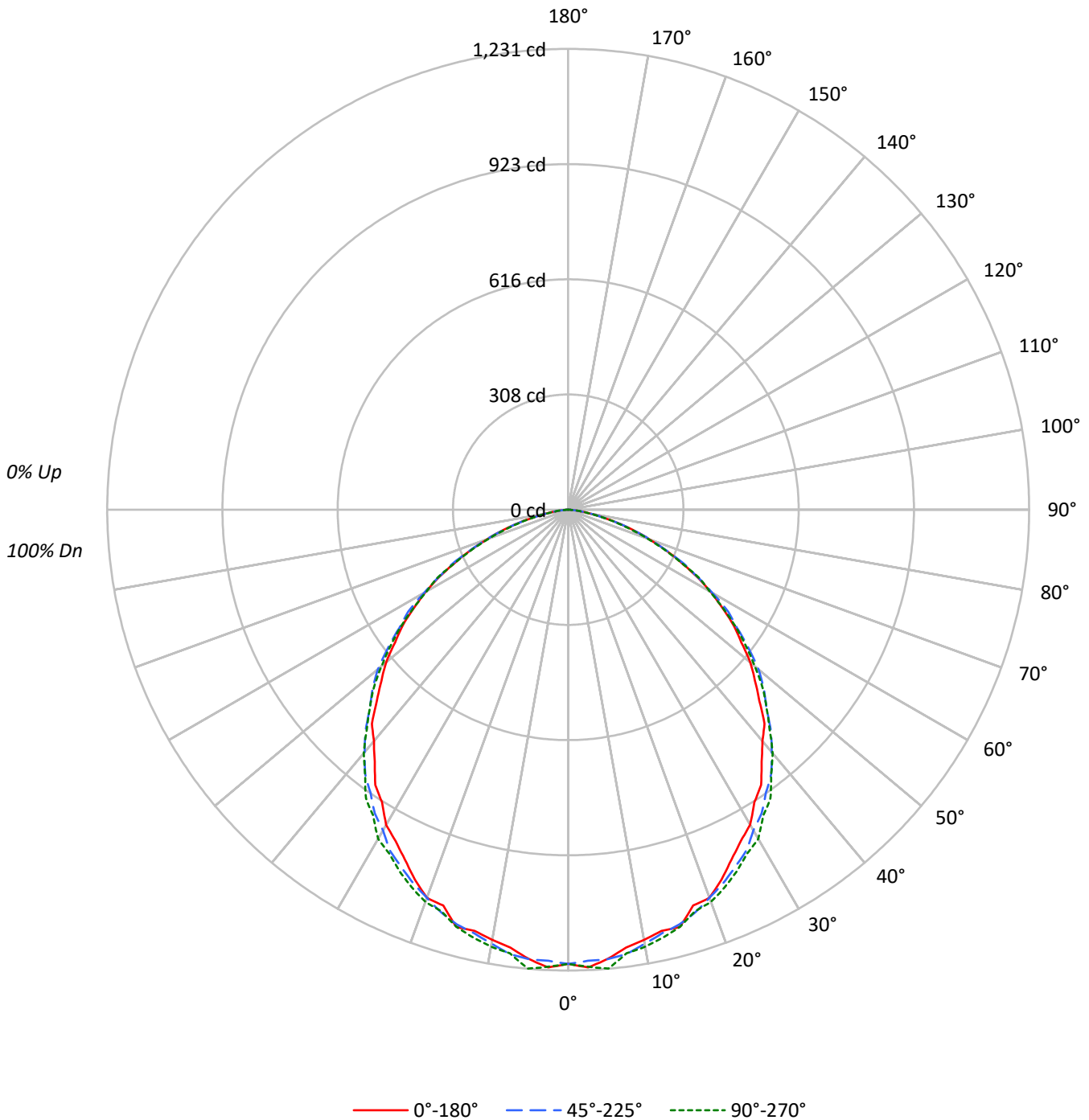
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3058.0 lumens  
Efficiency: N/A  
Efficacy: 130.7 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): 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	
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°	3265	3265	3265
5°	3254	3256	3324
10°	3188	3216	3239
15°	3214	3196	3214
20°	3159	3159	3193
25°	3062	3129	3163
30°	3020	3073	3155
35°	2949	3026	3094
40°	2834	2971	2984
45°	2748	2846	2850
50°	2658	2778	2725
55°	2533	2582	2563
60°	2369	2392	2349
65°	2112	2166	2097
70°	1812	1818	1768
75°	1435	1432	1377
80°	961	934	899
85°	522	519	485



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.1	3.7
10°-20°	323.5	10.6
20°-30°	484.6	15.8
30°-40°	574.4	18.8
40°-50°	575.4	18.8
50°-60°	488.4	16.0
60°-70°	329.3	10.8
70°-80°	144.7	4.7
80°-90°	23.5	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°	922.2	30.2
0°-40°	1496.6	48.9
0°-60°	2560.5	83.7
0°-90°	3058.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3058.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1213	1213	1213	1213	1213	
5°	1205	1202	1205	1202	1231	114
15°	1154	1140	1147	1153	1154	321
25°	1031	1037	1054	1068	1065	477
35°	898	900	921	942	942	557
45°	722	736	748	767	749	559
55°	540	536	550	547	546	480
65°	332	327	340	327	329	330
75°	138	135	138	128	132	148
85°	17	16	17	16	16	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1213.3	1213.3	1213.3	1213.3	1213.3
2.5°	1223.8	1214.6	1206.0	1216.0	1222.1
5°	1204.7	1201.9	1205.2	1201.6	1230.6
7.5°	1180.0	1190.8	1197.0	1193.1	1194.9
10°	1166.8	1163.0	1177.0	1186.7	1185.3
12.5°	1152.7	1158.3	1159.1	1169.6	1170.6
15°	1153.5	1140.2	1147.2	1153.2	1153.6
17.5°	1108.7	1123.1	1128.0	1141.6	1124.7
20°	1103.2	1092.7	1103.2	1117.1	1115.0
22.5°	1069.5	1057.8	1080.3	1092.7	1091.9
25°	1031.3	1036.9	1053.9	1067.6	1065.4
27.5°	997.8	1004.4	1028.5	1047.4	1035.2
30°	971.9	968.6	989.0	1005.9	1015.3
32.5°	925.7	937.6	961.4	978.2	969.3
35°	897.7	900.3	921.2	942.5	941.8
37.5°	848.6	861.0	890.3	896.3	890.8
40°	806.8	819.2	845.7	852.1	849.4
42.5°	775.9	778.1	800.8	808.2	796.5
45°	722.2	735.7	747.9	767.2	749.0
47.5°	676.5	682.7	709.0	714.2	704.7
50°	634.9	637.1	663.6	657.2	650.9
52.5°	582.8	592.0	606.9	605.7	598.3
55°	539.9	536.2	550.3	546.6	546.4
57.5°	488.3	494.6	506.2	500.2	490.7
60°	440.1	440.2	444.4	437.7	436.5
62.5°	386.3	388.2	389.1	380.8	394.3
65°	331.7	327.3	340.1	327.1	329.3
67.5°	281.4	283.6	282.3	274.2	277.3
70°	230.3	233.1	231.1	221.8	224.7
72.5°	183.6	180.2	182.4	170.8	176.1
75°	138.0	135.2	137.7	128.0	132.4
77.5°	94.0	96.2	94.6	89.5	92.4
80°	62.0	60.3	60.3	57.3	58.0
82.5°	36.2	34.5	34.0	33.1	34.5
85°	16.9	16.4	16.8	16.3	15.7
87.5°	6.1	6.3	6.3	6.0	5.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)