

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590316

Luminaire Tested: FSR-24-2-LD4-2LO-50-UNV-82-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590316  
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  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-2LO-50-UNV-82-97-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

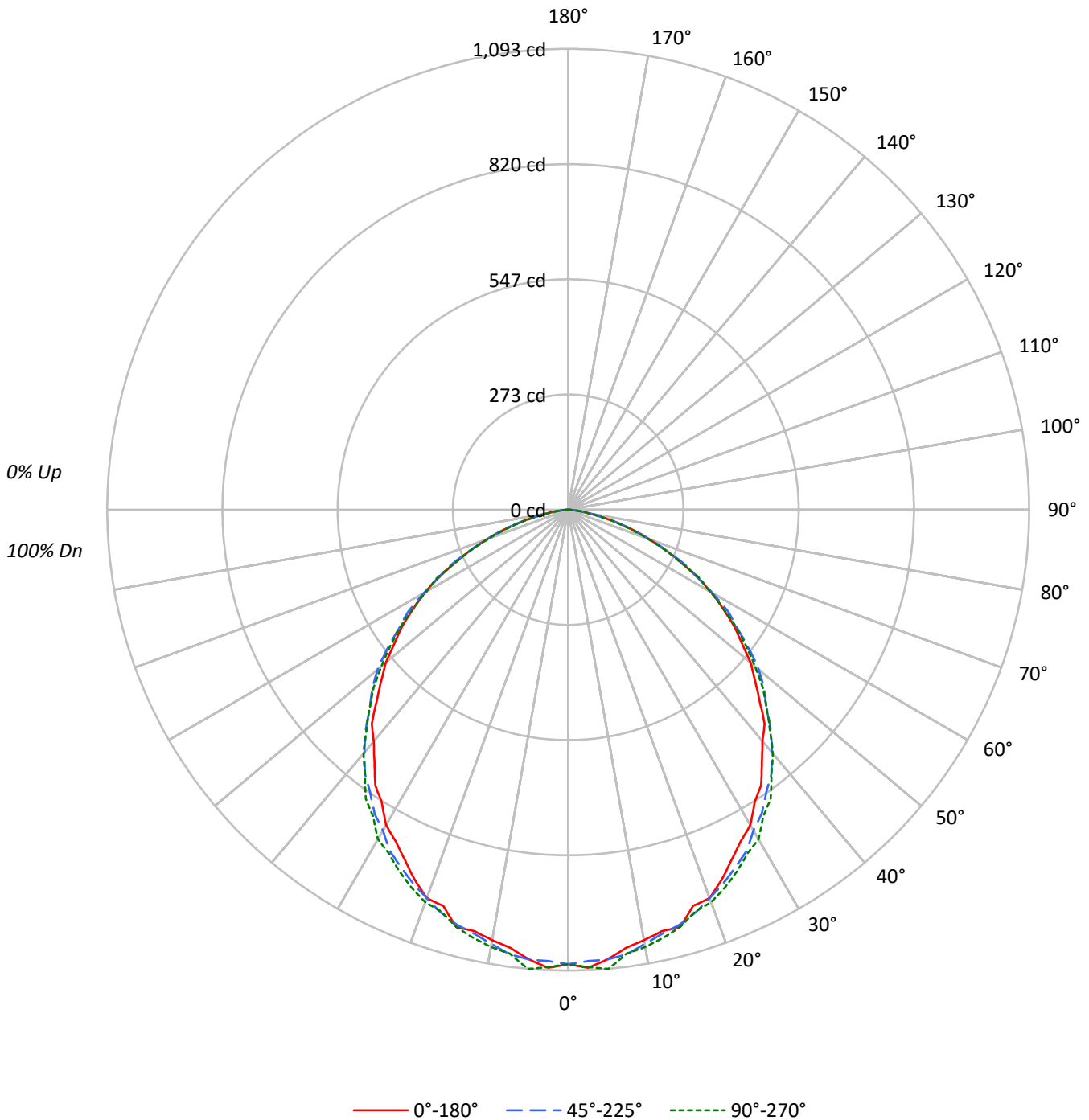
Lumens per Lamp: N/A  
Luminaire Lumens: 2717.0 lumens  
Efficiency: N/A  
Efficacy: 116.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	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°	2901	2901	2901
5°	2891	2893	2953
10°	2833	2857	2878
15°	2855	2840	2856
20°	2807	2807	2837
25°	2721	2780	2811
30°	2683	2730	2803
35°	2620	2689	2749
40°	2518	2640	2651
45°	2442	2529	2533
50°	2362	2468	2421
55°	2251	2294	2278
60°	2104	2125	2087
65°	1876	1924	1863
70°	1610	1615	1570
75°	1275	1272	1223
80°	854	831	798
85°	463	460	429

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2594 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.4	3.7
10°-20°	287.4	10.6
20°-30°	430.6	15.8
30°-40°	510.3	18.8
40°-50°	511.3	18.8
50°-60°	434.0	16.0
60°-70°	292.6	10.8
70°-80°	128.6	4.7
80°-90°	20.9	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°	819.4	30.2
0°-40°	1329.7	48.9
0°-60°	2274.9	83.7
0°-90°	2717.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2717.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1078	1078	1078	1078	1078	
5°	1070	1068	1071	1068	1093	101
15°	1025	1013	1019	1025	1025	286
25°	916	921	936	949	947	424
35°	798	800	818	837	837	495
45°	642	654	664	682	666	496
55°	480	476	489	486	486	427
65°	295	291	302	291	293	293
75°	123	120	122	114	118	131
85°	15	15	15	14	14	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1078.0	1078.0	1078.0	1078.0	1078.0
2.5°	1087.4	1079.2	1071.5	1080.4	1085.8
5°	1070.4	1067.9	1070.8	1067.6	1093.3
7.5°	1048.4	1058.0	1063.6	1060.1	1061.6
10°	1036.7	1033.4	1045.7	1054.4	1053.1
12.5°	1024.2	1029.2	1029.9	1039.2	1040.0
15°	1024.9	1013.0	1019.3	1024.6	1025.0
17.5°	985.1	997.9	1002.2	1014.3	999.3
20°	980.2	970.9	980.2	992.6	990.6
22.5°	950.3	939.8	959.9	970.9	970.2
25°	916.3	921.3	936.3	948.6	946.6
27.5°	886.5	892.4	913.8	930.6	919.8
30°	863.5	860.6	878.7	893.7	902.1
32.5°	822.5	833.1	854.2	869.1	861.2
35°	797.6	799.9	818.4	837.4	836.8
37.5°	754.0	765.0	791.0	796.3	791.4
40°	716.8	727.8	751.4	757.1	754.7
42.5°	689.4	691.4	711.5	718.1	707.6
45°	641.7	653.6	664.5	681.6	665.5
47.5°	601.0	606.6	630.0	634.6	626.1
50°	564.1	566.1	589.6	583.9	578.3
52.5°	517.8	526.0	539.2	538.1	531.6
55°	479.7	476.5	489.0	485.6	485.5
57.5°	433.9	439.4	449.7	444.4	435.9
60°	391.0	391.1	394.9	388.9	387.8
62.5°	343.2	344.9	345.8	338.4	350.3
65°	294.7	290.8	302.2	290.6	292.6
67.5°	250.0	251.9	250.8	243.6	246.4
70°	204.6	207.1	205.3	197.1	199.6
72.5°	163.1	160.1	162.0	151.7	156.5
75°	122.6	120.1	122.3	113.7	117.6
77.5°	83.5	85.5	84.1	79.5	82.1
80°	55.1	53.6	53.6	50.9	51.5
82.5°	32.2	30.6	30.2	29.4	30.6
85°	15.0	14.6	14.9	14.5	13.9
87.5°	5.4	5.6	5.6	5.3	5.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)