

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: P590300

Luminaire Tested: FSR-24-2-LD4-2LO-50-UNV-80-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590300  
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-80-97-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

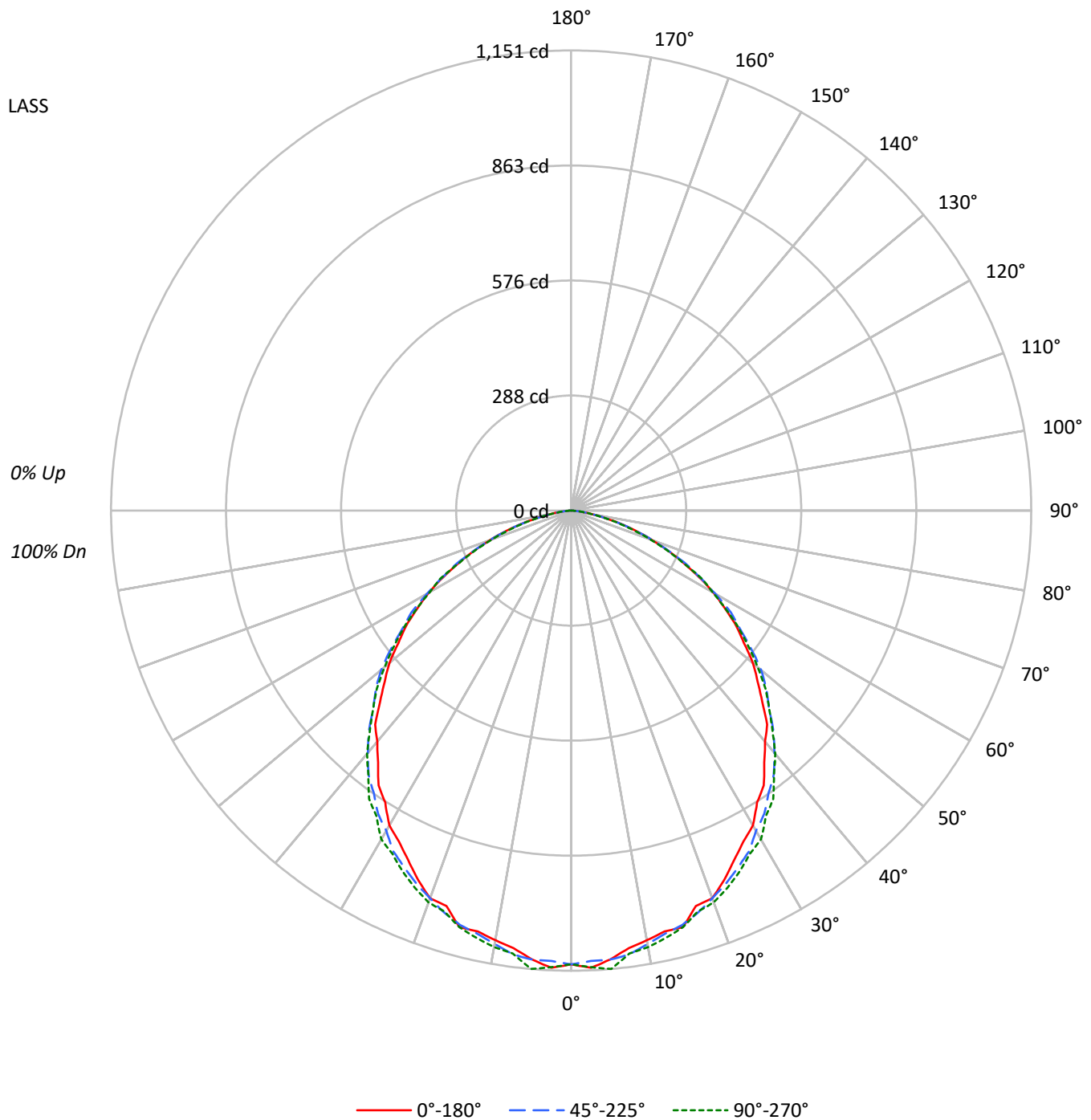
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2860.0 lumens  
Efficiency: N/A  
Efficacy: 122.2 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					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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	3054	3054	3054
5°	3044	3045	3109
10°	2982	3008	3029
15°	3005	2989	3006
20°	2955	2955	2986
25°	2864	2926	2959
30°	2825	2874	2951
35°	2758	2830	2894
40°	2651	2778	2791
45°	2570	2662	2666
50°	2486	2598	2549
55°	2369	2415	2398
60°	2215	2237	2197
65°	1975	2025	1961
70°	1695	1700	1653
75°	1342	1339	1287
80°	899	874	840
85°	488	485	454

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2731 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.7	3.7
10°-20°	302.5	10.6
20°-30°	453.2	15.8
30°-40°	537.2	18.8
40°-50°	538.2	18.8
50°-60°	456.8	16.0
60°-70°	308.0	10.8
70°-80°	135.3	4.7
80°-90°	22.0	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°	862.5	30.2
0°-40°	1399.7	48.9
0°-60°	2394.7	83.7
0°-90°	2860.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2860.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1135	1135	1135	1135	1135	
5°	1127	1124	1127	1124	1151	106
15°	1079	1066	1073	1078	1079	301
25°	964	970	986	998	996	446
35°	840	842	862	881	881	521
45°	675	688	700	718	700	522
55°	505	502	515	511	511	449
65°	310	306	318	306	308	308
75°	129	126	129	120	124	138
85°	16	15	16	15	15	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1134.8	1134.8	1134.8	1134.8	1134.8
2.5°	1144.6	1135.9	1127.9	1137.3	1143.0
5°	1126.7	1124.1	1127.2	1123.8	1150.9
7.5°	1103.6	1113.7	1119.5	1115.9	1117.5
10°	1091.3	1087.7	1100.8	1109.9	1108.5
12.5°	1078.1	1083.3	1084.1	1093.9	1094.8
15°	1078.8	1066.4	1072.9	1078.5	1079.0
17.5°	1036.9	1050.4	1054.9	1067.7	1051.8
20°	1031.8	1022.0	1031.8	1044.8	1042.8
22.5°	1000.3	989.3	1010.4	1022.0	1021.2
25°	964.5	969.8	985.6	998.5	996.5
27.5°	933.2	939.3	961.9	979.6	968.2
30°	909.0	905.9	925.0	940.8	949.6
32.5°	865.8	876.9	899.2	914.9	906.5
35°	839.5	842.0	861.5	881.4	880.9
37.5°	793.7	805.3	832.7	838.2	833.1
40°	754.6	766.1	790.9	796.9	794.4
42.5°	725.7	727.8	749.0	755.9	744.9
45°	675.4	688.0	699.5	717.5	700.5
47.5°	632.7	638.5	663.1	668.0	659.0
50°	593.8	595.9	620.6	614.6	608.8
52.5°	545.0	553.7	567.6	566.4	559.5
55°	504.9	501.5	514.7	511.2	511.1
57.5°	456.7	462.6	473.4	467.8	458.9
60°	411.6	411.7	415.7	409.4	408.2
62.5°	361.3	363.1	363.9	356.2	368.8
65°	310.2	306.1	318.1	305.9	308.0
67.5°	263.1	265.2	264.0	256.4	259.3
70°	215.4	218.0	216.1	207.5	210.1
72.5°	171.7	168.5	170.5	159.7	164.7
75°	129.1	126.4	128.8	119.7	123.8
77.5°	87.9	90.0	88.5	83.7	86.4
80°	58.0	56.4	56.4	53.6	54.2
82.5°	33.8	32.2	31.8	30.9	32.2
85°	15.8	15.4	15.7	15.2	14.7
87.5°	5.7	5.9	5.9	5.6	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)