

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: P589915

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-80-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589915  
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-LD4-1HI-50-UNV-80-96-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

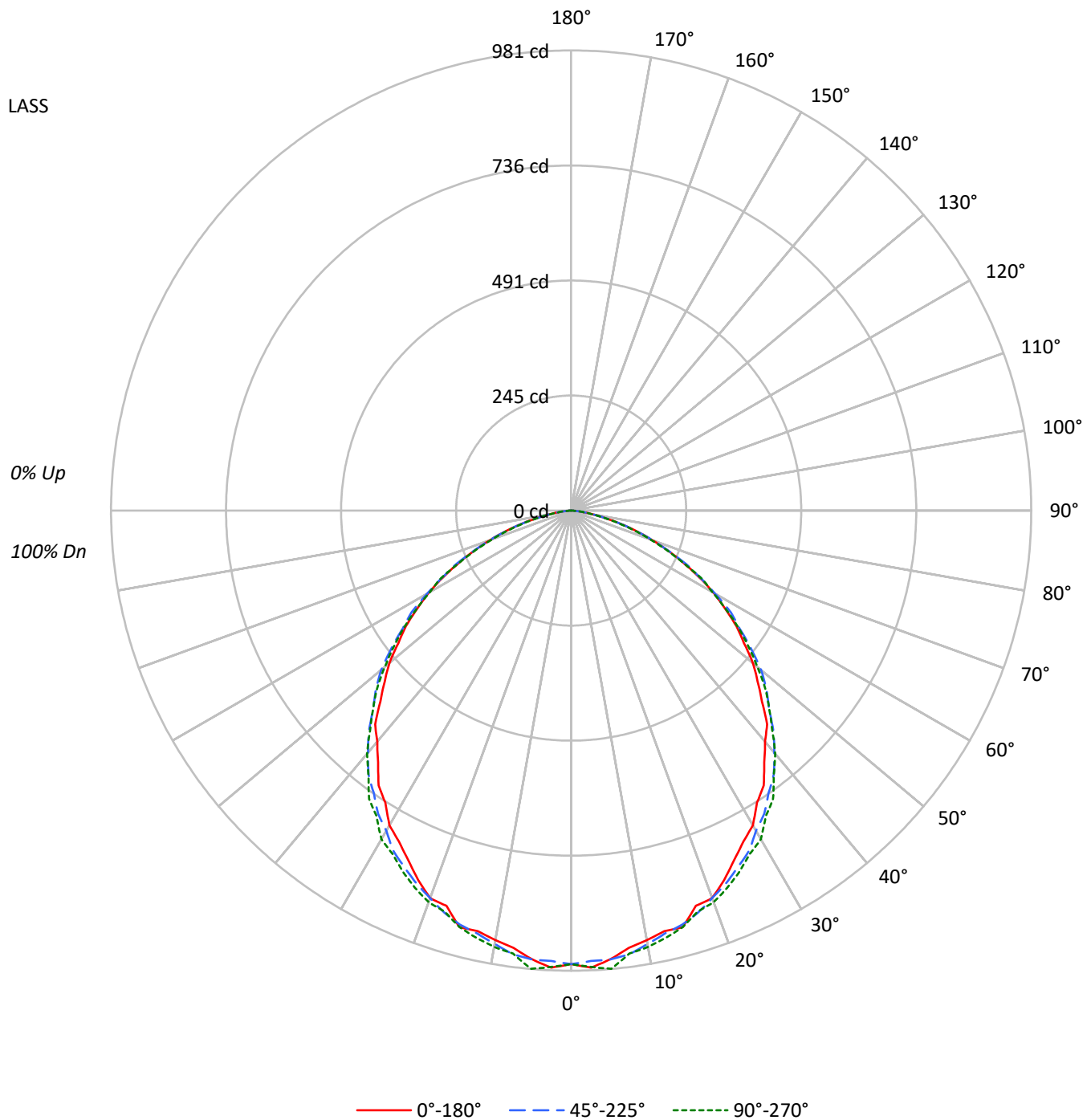
Lumens per Lamp: N/A  
Luminaire Lumens: 2437.0 lumens  
Efficiency: N/A  
Efficacy: 112.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	2602	2602	2602
5°	2593	2594	2649
10°	2541	2563	2581
15°	2561	2547	2561
20°	2518	2518	2544
25°	2440	2494	2521
30°	2407	2449	2514
35°	2350	2412	2466
40°	2259	2367	2378
45°	2190	2268	2272
50°	2118	2214	2171
55°	2018	2058	2043
60°	1887	1906	1872
65°	1683	1726	1671
70°	1444	1448	1408
75°	1144	1141	1097
80°	766	745	716
85°	417	414	386

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2327 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.0	3.7
10°-20°	257.8	10.6
20°-30°	386.2	15.8
30°-40°	457.7	18.8
40°-50°	458.6	18.8
50°-60°	389.3	16.0
60°-70°	262.4	10.8
70°-80°	115.3	4.7
80°-90°	18.7	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°	734.9	30.2
0°-40°	1192.7	48.9
0°-60°	2040.5	83.7
0°-90°	2437.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2437.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	967	967	967	967	967	
5°	960	958	960	958	981	91
15°	919	909	914	919	919	256
25°	822	826	840	851	849	380
35°	715	718	734	751	751	444
45°	576	586	596	611	597	445
55°	430	427	439	436	436	383
65°	264	261	271	261	262	263
75°	110	108	110	102	106	118
85°	14	13	13	13	12	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	966.9	966.9	966.9	966.9	966.9
2.5°	975.3	967.9	961.1	969.1	973.9
5°	960.1	957.8	960.4	957.6	980.7
7.5°	940.3	949.0	954.0	950.8	952.2
10°	929.9	926.9	938.0	945.7	944.6
12.5°	918.6	923.1	923.7	932.1	932.9
15°	919.2	908.6	914.3	919.0	919.4
17.5°	883.5	895.0	898.9	909.8	896.3
20°	879.2	870.8	879.2	890.3	888.5
22.5°	852.3	843.0	860.9	870.8	870.2
25°	821.9	826.4	839.8	850.8	849.1
27.5°	795.2	800.4	819.6	834.7	825.0
30°	774.6	771.9	788.2	801.6	809.1
32.5°	737.7	747.2	766.2	779.5	772.4
35°	715.4	717.5	734.1	751.1	750.6
37.5°	676.3	686.2	709.5	714.2	709.9
40°	643.0	652.8	673.9	679.0	676.9
42.5°	618.4	620.1	638.2	644.1	634.7
45°	575.5	586.3	596.0	611.4	596.9
47.5°	539.1	544.1	565.1	569.2	561.6
50°	506.0	507.8	528.9	523.7	518.7
52.5°	464.4	471.8	483.7	482.7	476.8
55°	430.2	427.4	438.6	435.6	435.5
57.5°	389.1	394.1	403.4	398.6	391.0
60°	350.7	350.8	354.2	348.8	347.8
62.5°	307.9	309.4	310.1	303.5	314.2
65°	264.3	260.8	271.0	260.7	262.4
67.5°	224.2	226.0	225.0	218.5	221.0
70°	183.5	185.8	184.1	176.8	179.0
72.5°	146.3	143.6	145.3	136.1	140.3
75°	110.0	107.7	109.7	102.0	105.5
77.5°	74.9	76.7	75.4	71.3	73.7
80°	49.4	48.1	48.1	45.7	46.2
82.5°	28.8	27.5	27.1	26.3	27.5
85°	13.5	13.1	13.4	13.0	12.5
87.5°	4.9	5.0	5.0	4.7	4.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)