

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: P589851

Luminaire Tested: FSR-24-2-LD4-1HI-35-UNV-80-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589851  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

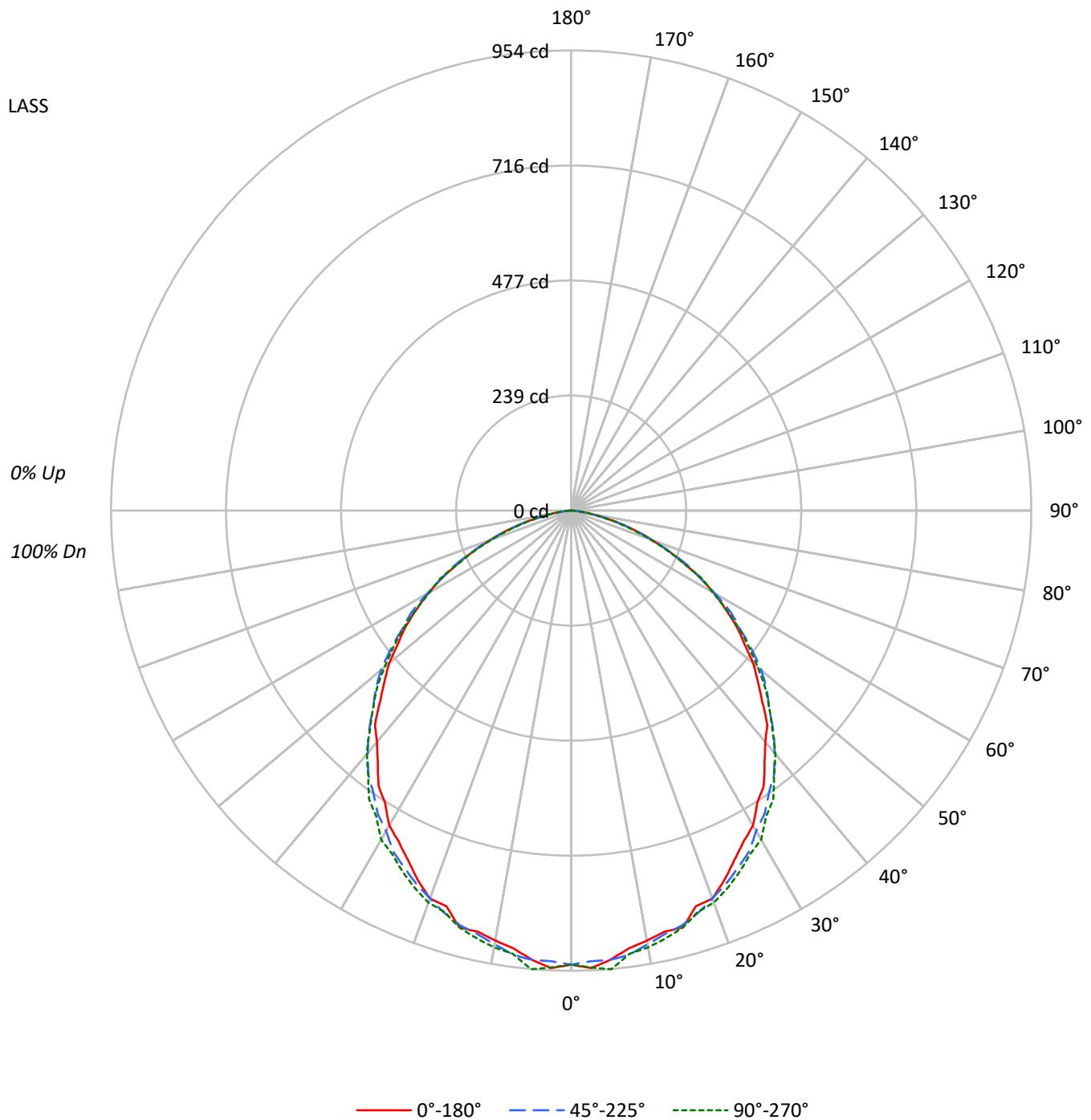
Lumens per Lamp: N/A  
Luminaire Lumens: 2372.0 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	2532	2532	2532
5°	2524	2525	2578
10°	2473	2495	2512
15°	2493	2479	2493
20°	2450	2450	2477
25°	2375	2427	2454
30°	2343	2384	2447
35°	2287	2347	2400
40°	2198	2304	2315
45°	2132	2208	2211
50°	2062	2155	2114
55°	1964	2003	1989
60°	1837	1855	1822
65°	1638	1680	1626
70°	1405	1410	1371
75°	1114	1110	1068
80°	745	725	697
85°	404	401	377

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2265 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.5	3.7
10°-20°	250.9	10.6
20°-30°	375.9	15.8
30°-40°	445.5	18.8
40°-50°	446.3	18.8
50°-60°	378.9	16.0
60°-70°	255.4	10.8
70°-80°	112.2	4.7
80°-90°	18.2	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°	715.3	30.2
0°-40°	1160.9	48.9
0°-60°	1986.1	83.7
0°-90°	2372.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2372.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	941	941	941	941	941	
5°	934	932	935	932	954	88
15°	895	884	890	894	895	249
25°	800	804	817	828	826	370
35°	696	698	714	731	731	432
45°	560	571	580	595	581	433
55°	419	416	427	424	424	372
65°	257	254	264	254	255	256
75°	107	105	107	99	103	115
85°	13	13	13	13	12	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	941.1	941.1	941.1	941.1	941.1
2.5°	949.3	942.1	935.4	943.2	948.0
5°	934.5	932.3	934.8	932.0	954.5
7.5°	915.3	923.7	928.5	925.5	926.8
10°	905.1	902.1	913.0	920.5	919.4
12.5°	894.1	898.5	899.1	907.2	908.0
15°	894.7	884.4	889.9	894.5	894.9
17.5°	860.0	871.2	874.9	885.5	872.4
20°	855.7	847.6	855.7	866.5	864.8
22.5°	829.6	820.5	838.0	847.6	847.0
25°	799.9	804.3	817.4	828.1	826.4
27.5°	773.9	779.0	797.8	812.5	803.0
30°	753.9	751.3	767.1	780.3	787.6
32.5°	718.0	727.3	745.8	758.8	751.8
35°	696.3	698.4	714.5	731.0	730.6
37.5°	658.3	667.9	690.6	695.2	690.9
40°	625.8	635.4	655.9	660.9	658.9
42.5°	601.9	603.6	621.2	626.9	617.8
45°	560.2	570.6	580.1	595.1	581.0
47.5°	524.7	529.6	550.0	554.0	546.6
50°	492.5	494.2	514.7	509.8	504.9
52.5°	452.0	459.2	470.8	469.8	464.1
55°	418.7	416.0	426.9	424.0	423.9
57.5°	378.8	383.6	392.6	388.0	380.6
60°	341.3	341.5	344.7	339.5	338.5
62.5°	299.7	301.1	301.8	295.4	305.9
65°	257.3	253.8	263.8	253.7	255.4
67.5°	218.2	219.9	219.0	212.7	215.1
70°	178.6	180.8	179.2	172.1	174.3
72.5°	142.4	139.7	141.4	132.5	136.6
75°	107.1	104.9	106.8	99.3	102.7
77.5°	72.9	74.6	73.4	69.4	71.7
80°	48.1	46.8	46.8	44.5	45.0
82.5°	28.1	26.7	26.4	25.6	26.7
85°	13.1	12.8	13.0	12.6	12.2
87.5°	4.7	4.9	4.9	4.6	4.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)