

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: P589914

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-80-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589914  
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-80-94-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

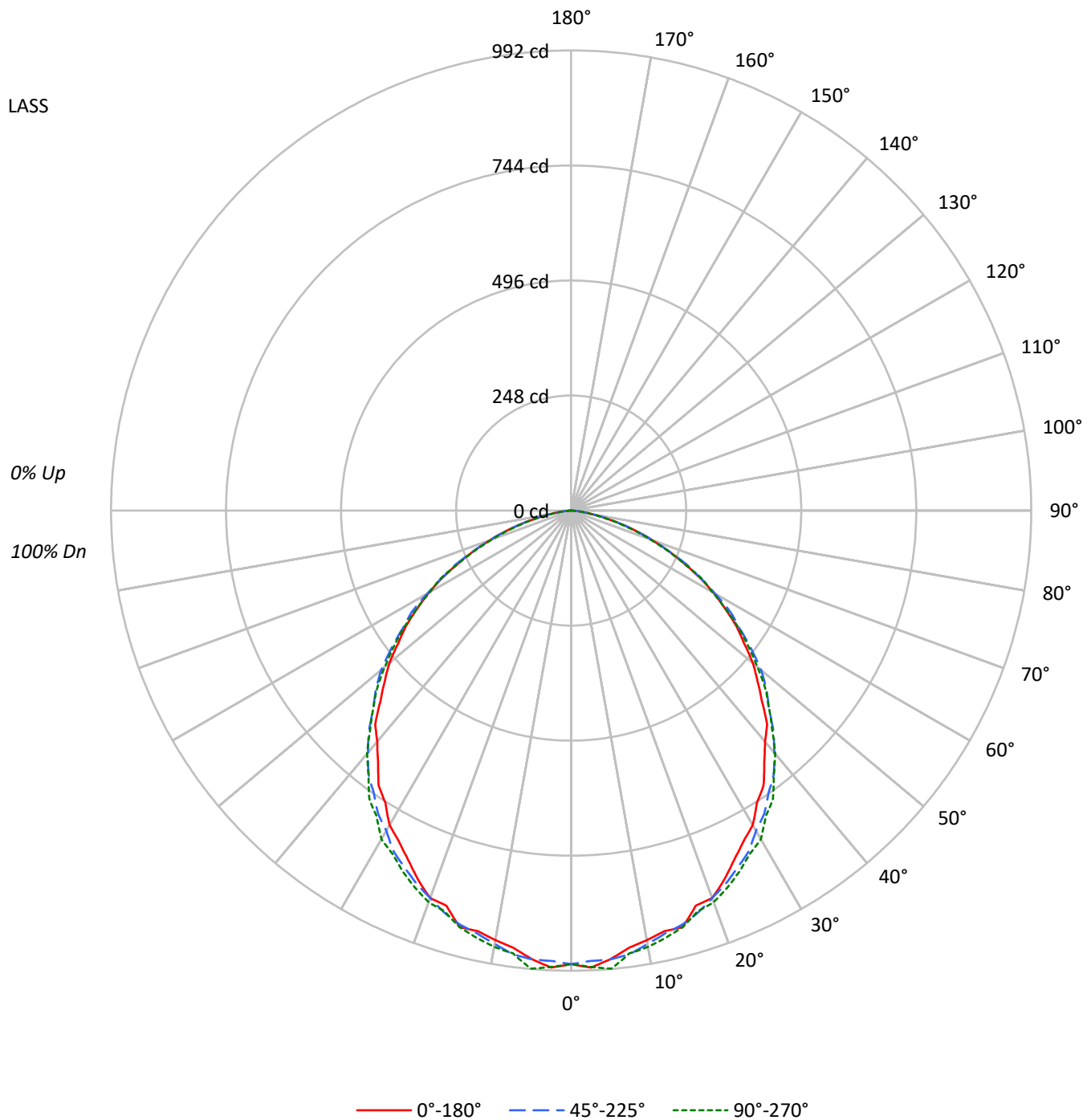
Lumens per Lamp: N/A  
Luminaire Lumens: 2464.0 lumens  
Efficiency: N/A  
Efficacy: 114.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2631	2631	2631
5°	2622	2623	2678
10°	2569	2591	2610
15°	2589	2575	2590
20°	2546	2546	2573
25°	2467	2521	2549
30°	2433	2476	2542
35°	2376	2438	2493
40°	2284	2394	2404
45°	2214	2293	2297
50°	2142	2238	2196
55°	2041	2080	2066
60°	1908	1927	1893
65°	1701	1745	1689
70°	1460	1465	1424
75°	1156	1154	1109
80°	775	753	724
85°	420	417	389

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2352 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.0	3.7
10°-20°	260.6	10.6
20°-30°	390.5	15.8
30°-40°	462.8	18.8
40°-50°	463.7	18.8
50°-60°	393.6	16.0
60°-70°	265.3	10.8
70°-80°	116.6	4.7
80°-90°	18.9	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°	743.1	30.2
0°-40°	1205.9	48.9
0°-60°	2063.1	83.7
0°-90°	2464.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2464.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	971	968	971	968	992	92
15°	929	919	924	929	930	259
25°	831	836	849	860	858	384
35°	723	725	742	759	759	449
45°	582	593	603	618	604	450
55°	435	432	443	440	440	387
65°	267	264	274	264	265	266
75°	111	109	111	103	107	119
85°	14	13	14	13	13	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	977.7	977.7	977.7	977.7	977.7
2.5°	986.1	978.7	971.7	979.8	984.7
5°	970.7	968.4	971.1	968.2	991.5
7.5°	950.8	959.5	964.5	961.4	962.8
10°	940.2	937.1	948.4	956.2	955.1
12.5°	928.8	933.3	934.0	942.4	943.2
15°	929.4	918.7	924.4	929.2	929.6
17.5°	893.3	904.9	908.9	919.8	906.2
20°	888.9	880.5	888.9	900.1	898.4
22.5°	861.8	852.3	870.5	880.5	879.8
25°	831.0	835.5	849.2	860.3	858.5
27.5°	804.0	809.3	828.7	844.0	834.1
30°	783.1	780.5	796.9	810.5	818.1
32.5°	745.9	755.5	774.7	788.2	781.0
35°	723.3	725.4	742.2	759.4	758.9
37.5°	683.8	693.8	717.4	722.2	717.7
40°	650.1	660.1	681.4	686.6	684.4
42.5°	625.2	627.0	645.3	651.2	641.8
45°	581.9	592.8	602.6	618.1	603.5
47.5°	545.1	550.1	571.3	575.5	567.8
50°	511.6	513.4	534.7	529.5	524.5
52.5°	469.6	477.0	489.0	488.0	482.1
55°	435.0	432.1	443.4	440.4	440.3
57.5°	393.5	398.5	407.8	403.1	395.4
60°	354.6	354.7	358.1	352.7	351.7
62.5°	311.3	312.8	313.6	306.9	317.7
65°	267.2	263.7	274.0	263.6	265.3
67.5°	226.7	228.5	227.5	220.9	223.4
70°	185.6	187.8	186.2	178.7	181.0
72.5°	147.9	145.2	146.9	137.6	141.9
75°	111.2	108.9	111.0	103.1	106.7
77.5°	75.7	77.5	76.2	72.1	74.5
80°	50.0	48.6	48.6	46.2	46.7
82.5°	29.2	27.8	27.4	26.6	27.8
85°	13.6	13.3	13.5	13.1	12.6
87.5°	4.9	5.0	5.0	4.8	4.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)