

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: P561466

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561466  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-4-LD4-2HI-50-UNV-80-94-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

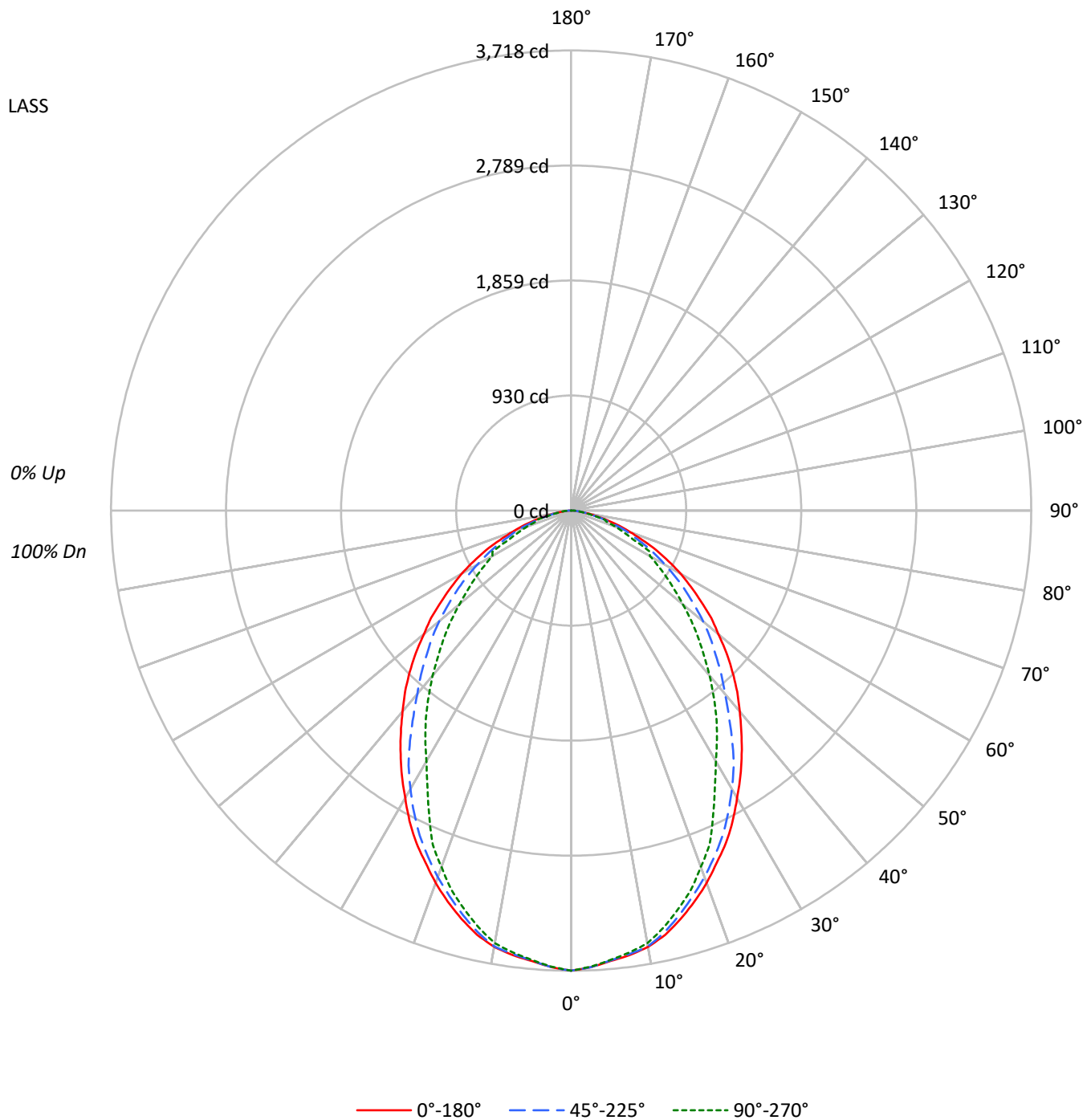
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7298.0 lumens  
Efficiency: N/A  
Efficacy: 84.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

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

	0°	45°	90°
0°	10004	10004	10004
5°	9868	9856	9844
10°	9782	9771	9700
15°	9519	9423	9291
20°	9169	9021	8775
25°	8792	8600	8065
30°	8333	8066	7264
35°	7892	7455	6720
40°	7443	6794	6114
45°	7016	6280	5528
50°	6495	5830	4930
55°	6009	5283	4416
60°	5505	4718	3955
65°	4844	4132	3503
70°	3990	3618	2976
75°	3172	2771	2904
80°	2131	1998	1864
85°	1328	1593	1859

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7016 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	346.0	4.7
10°-20°	949.7	13.0
20°-30°	1314.8	18.0
30°-40°	1402.0	19.2
40°-50°	1279.0	17.5
50°-60°	1002.0	13.7
60°-70°	653.0	8.9
70°-80°	289.3	4.0
80°-90°	62.1	0.9
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°	2610.5	35.8
0°-40°	4012.5	55.0
0°-60°	6293.5	86.2
0°-90°	7298.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7298.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3718	3718	3718	3718	3718	
5°	3653	3649	3649	3644	3644	347
15°	3417	3417	3382	3348	3335	961
25°	2961	2944	2897	2794	2716	1359
35°	2402	2385	2269	2097	2046	1502
45°	1844	1805	1650	1513	1453	1420
55°	1281	1242	1126	993	941	1149
65°	761	718	649	662	550	750
75°	305	284	266	254	279	327
85°	43	47	52	56	60	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3717.5	3717.5	3717.5	3717.5	3717.5
2.5°	3691.7	3691.7	3691.7	3687.4	3687.4
5°	3653.0	3648.7	3648.7	3644.4	3644.4
7.5°	3623.0	3618.7	3614.4	3610.1	3601.5
10°	3580.0	3580.0	3575.7	3554.2	3549.9
12.5°	3511.2	3506.9	3489.7	3459.6	3451.0
15°	3416.7	3416.7	3382.3	3347.9	3335.0
17.5°	3313.5	3309.2	3266.2	3231.9	3214.7
20°	3201.8	3193.2	3150.2	3094.3	3064.3
22.5°	3077.1	3077.1	3025.6	2952.5	2922.4
25°	2961.1	2943.9	2896.6	2793.5	2716.1
27.5°	2827.9	2802.1	2750.5	2604.4	2514.1
30°	2681.8	2668.9	2595.8	2406.7	2337.9
32.5°	2544.2	2522.7	2445.4	2247.7	2191.8
35°	2402.4	2385.2	2269.2	2097.3	2045.7
37.5°	2260.6	2239.1	2093.0	1955.4	1891.0
40°	2118.8	2093.0	1934.0	1809.3	1740.6
42.5°	1985.5	1951.2	1796.4	1663.2	1585.8
45°	1843.7	1805.0	1650.3	1512.8	1452.6
47.5°	1701.9	1667.5	1525.7	1383.9	1315.1
50°	1551.5	1521.4	1392.5	1250.6	1177.6
52.5°	1426.8	1379.6	1254.9	1113.1	1052.9
55°	1280.7	1242.0	1126.0	992.8	941.2
57.5°	1147.5	1108.8	1001.4	876.7	833.8
60°	1022.9	967.0	876.7	769.3	734.9
62.5°	885.3	842.3	765.0	674.7	717.7
65°	760.7	717.7	649.0	661.8	550.1
67.5°	623.2	601.7	541.5	481.3	464.2
70°	507.1	481.3	459.9	395.4	378.2
72.5°	404.0	378.2	348.1	313.7	300.8
75°	305.1	283.6	266.5	253.6	279.3
77.5°	210.6	202.0	189.1	176.2	171.9
80°	137.5	133.2	128.9	124.6	120.3
82.5°	81.7	81.7	81.7	81.7	81.7
85°	43.0	47.3	51.6	55.9	60.2
87.5°	25.8	25.8	30.1	34.4	38.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)