

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: P561855

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-80-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561855  
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-LD4-2STD-50-UNV-80-97-EDD  
Description: 1X4 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**

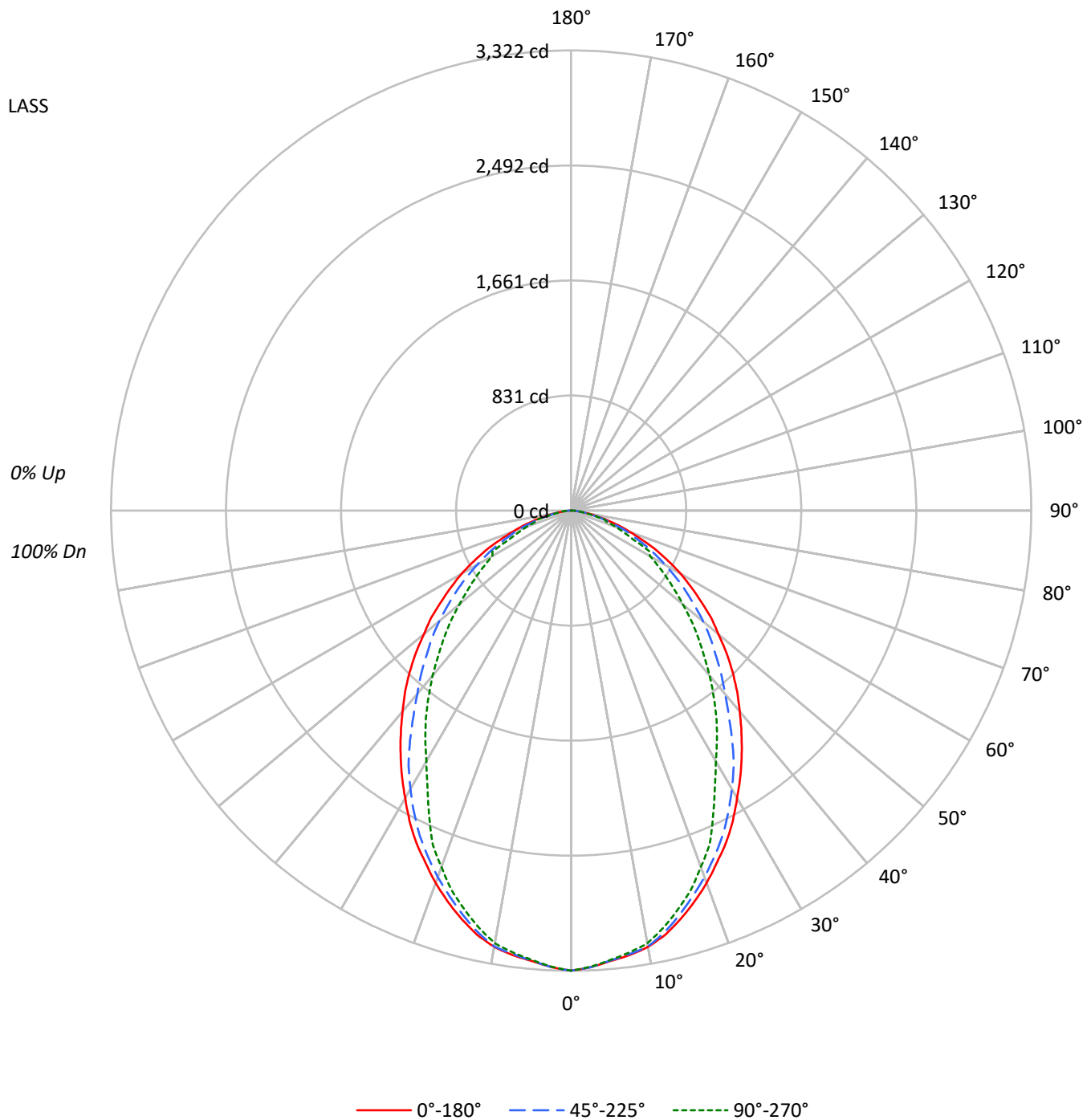
Lumens per Lamp: N/A  
Luminaire Lumens: 6521.0 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8939	8939	8939
5°	8817	8807	8796
10°	8741	8730	8667
15°	8505	8420	8302
20°	8193	8061	7841
25°	7856	7685	7206
30°	7446	7207	6491
35°	7052	6661	6005
40°	6650	6071	5463
45°	6269	5612	4940
50°	5804	5209	4405
55°	5369	4720	3946
60°	4919	4216	3534
65°	4328	3692	3130
70°	3565	3233	2659
75°	2834	2476	2595
80°	1905	1785	1666
85°	1186	1423	1661

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6269 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	309.2	4.7
10°-20°	848.6	13.0
20°-30°	1174.8	18.0
30°-40°	1252.7	19.2
40°-50°	1142.8	17.5
50°-60°	895.3	13.7
60°-70°	583.5	8.9
70°-80°	258.5	4.0
80°-90°	55.5	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°	2332.6	35.8
0°-40°	3585.3	55.0
0°-60°	5623.5	86.2
0°-90°	6521.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6521.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3322	3322	3322	3322	3322	
5°	3264	3260	3260	3256	3256	310
15°	3053	3053	3022	2992	2980	858
25°	2646	2630	2588	2496	2427	1215
35°	2147	2131	2028	1874	1828	1342
45°	1647	1613	1475	1352	1298	1269
55°	1144	1110	1006	887	841	1026
65°	680	641	580	591	492	670
75°	273	253	238	227	250	292
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3321.7	3321.7	3321.7	3321.7	3321.7
2.5°	3298.7	3298.7	3298.7	3294.8	3294.8
5°	3264.1	3260.3	3260.3	3256.4	3256.4
7.5°	3237.2	3233.4	3229.5	3225.7	3218.0
10°	3198.8	3198.8	3195.0	3175.8	3171.9
12.5°	3137.4	3133.5	3118.2	3091.3	3083.6
15°	3052.9	3052.9	3022.2	2991.5	2979.9
17.5°	2960.7	2956.9	2918.5	2887.8	2872.4
20°	2860.9	2853.2	2814.8	2764.9	2738.0
22.5°	2749.5	2749.5	2703.4	2638.2	2611.3
25°	2645.8	2630.5	2588.2	2496.1	2427.0
27.5°	2526.8	2503.8	2457.7	2327.1	2246.5
30°	2396.2	2384.7	2319.4	2150.5	2089.0
32.5°	2273.4	2254.2	2185.0	2008.4	1958.5
35°	2146.6	2131.3	2027.6	1874.0	1827.9
37.5°	2019.9	2000.7	1870.1	1747.3	1689.7
40°	1893.2	1870.1	1728.1	1616.7	1555.3
42.5°	1774.1	1743.4	1605.2	1486.1	1417.0
45°	1647.4	1612.9	1474.6	1351.7	1298.0
47.5°	1520.7	1490.0	1363.2	1236.5	1175.1
50°	1386.3	1359.4	1244.2	1117.5	1052.2
52.5°	1274.9	1232.7	1121.3	994.6	940.8
55°	1144.4	1109.8	1006.1	887.1	841.0
57.5°	1025.3	990.8	894.7	783.4	745.0
60°	914.0	864.0	783.4	687.4	656.7
62.5°	791.1	752.7	683.5	602.9	641.3
65°	679.7	641.3	579.9	591.4	491.5
67.5°	556.8	537.6	483.9	430.1	414.7
70°	453.1	430.1	410.9	353.3	337.9
72.5°	361.0	337.9	311.1	280.3	268.8
75°	272.6	253.4	238.1	226.6	249.6
77.5°	188.2	180.5	169.0	157.4	153.6
80°	122.9	119.0	115.2	111.4	107.5
82.5°	73.0	73.0	73.0	73.0	73.0
85°	38.4	42.2	46.1	49.9	53.8
87.5°	23.0	23.0	26.9	30.7	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)