

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: P561894

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561894  
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-93-87-EDD-90  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

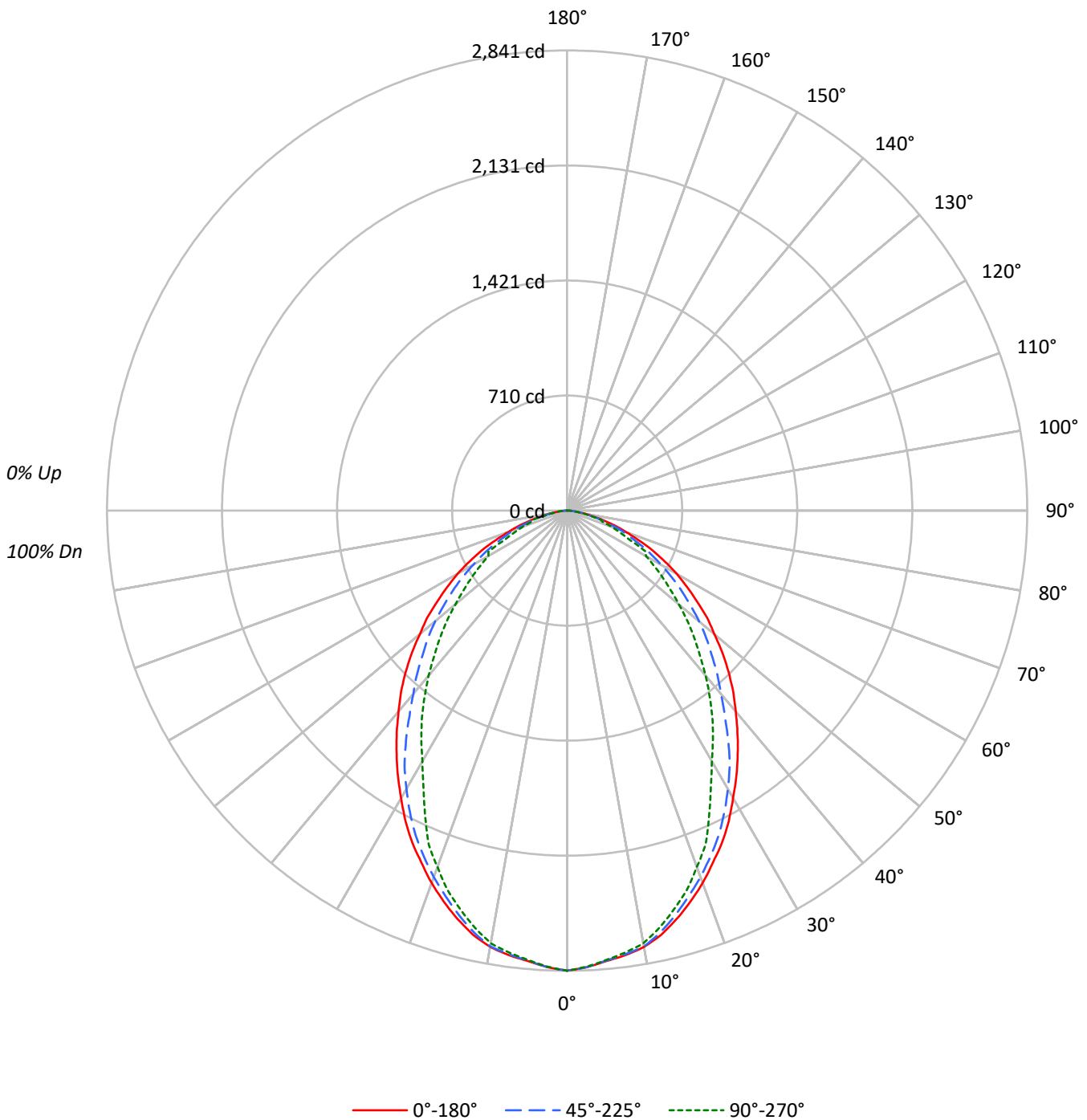
Lumens per Lamp: N/A  
Luminaire Lumens: 5577.0 lumens  
Efficiency: N/A  
Efficacy: 83.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7645	7645	7645
5°	7541	7532	7523
10°	7476	7467	7413
15°	7274	7201	7100
20°	7007	6894	6706
25°	6719	6573	6163
30°	6368	6164	5551
35°	6031	5697	5136
40°	5688	5192	4672
45°	5362	4799	4225
50°	4963	4455	3767
55°	4592	4037	3374
60°	4207	3606	3023
65°	3701	3158	2677
70°	3049	2765	2274
75°	2425	2117	2220
80°	1629	1526	1426
85°	1013	1216	1420

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5362 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	264.4	4.7
10°-20°	725.7	13.0
20°-30°	1004.7	18.0
30°-40°	1071.4	19.2
40°-50°	977.4	17.5
50°-60°	765.7	13.7
60°-70°	499.0	8.9
70°-80°	221.1	4.0
80°-90°	47.5	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°	1994.9	35.8
0°-40°	3066.3	55.0
0°-60°	4809.4	86.2
0°-90°	5577.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5577.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2841	2841	2841	2841	2841	
5°	2792	2788	2788	2785	2785	265
15°	2611	2611	2585	2558	2549	734
25°	2263	2250	2214	2135	2076	1039
35°	1836	1823	1734	1603	1563	1148
45°	1409	1379	1261	1156	1110	1085
55°	979	949	860	759	719	878
65°	581	548	496	506	420	573
75°	233	217	204	194	214	250
85°	33	36	39	43	46	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2840.8	2840.8	2840.8	2840.8	2840.8
2.5°	2821.1	2821.1	2821.1	2817.9	2817.9
5°	2791.6	2788.3	2788.3	2785.0	2785.0
7.5°	2768.6	2765.3	2762.0	2758.7	2752.2
10°	2735.8	2735.8	2732.5	2716.0	2712.8
12.5°	2683.2	2679.9	2666.8	2643.8	2637.2
15°	2611.0	2611.0	2584.7	2558.4	2548.6
17.5°	2532.1	2528.8	2496.0	2469.7	2456.6
20°	2446.7	2440.2	2407.3	2364.6	2341.6
22.5°	2351.5	2351.5	2312.1	2256.3	2233.3
25°	2262.8	2249.7	2213.6	2134.7	2075.6
27.5°	2161.0	2141.3	2101.9	1990.2	1921.3
30°	2049.4	2039.5	1983.7	1839.2	1786.6
32.5°	1944.3	1927.8	1868.7	1717.6	1675.0
35°	1835.9	1822.7	1734.1	1602.7	1563.3
37.5°	1727.5	1711.1	1599.4	1494.3	1445.1
40°	1619.1	1599.4	1477.9	1382.7	1330.1
42.5°	1517.3	1491.0	1372.8	1271.0	1211.9
45°	1408.9	1379.4	1261.1	1156.0	1110.1
47.5°	1300.6	1274.3	1165.9	1057.5	1005.0
50°	1185.6	1162.6	1064.1	955.7	899.9
52.5°	1090.4	1054.2	959.0	850.6	804.6
55°	978.7	949.1	860.5	758.7	719.2
57.5°	876.9	847.3	765.2	670.0	637.1
60°	781.6	738.9	670.0	587.9	561.6
62.5°	676.5	643.7	584.6	515.6	548.5
65°	581.3	548.5	495.9	505.8	420.4
67.5°	476.2	459.8	413.8	367.8	354.7
70°	387.5	367.8	351.4	302.1	289.0
72.5°	308.7	289.0	266.0	239.7	229.9
75°	233.2	216.8	203.6	193.8	213.5
77.5°	160.9	154.4	144.5	134.7	131.4
80°	105.1	101.8	98.5	95.2	92.0
82.5°	62.4	62.4	62.4	62.4	62.4
85°	32.8	36.1	39.4	42.7	46.0
87.5°	19.7	19.7	23.0	26.3	29.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)