

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: P561867

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561867  
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-81-94-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

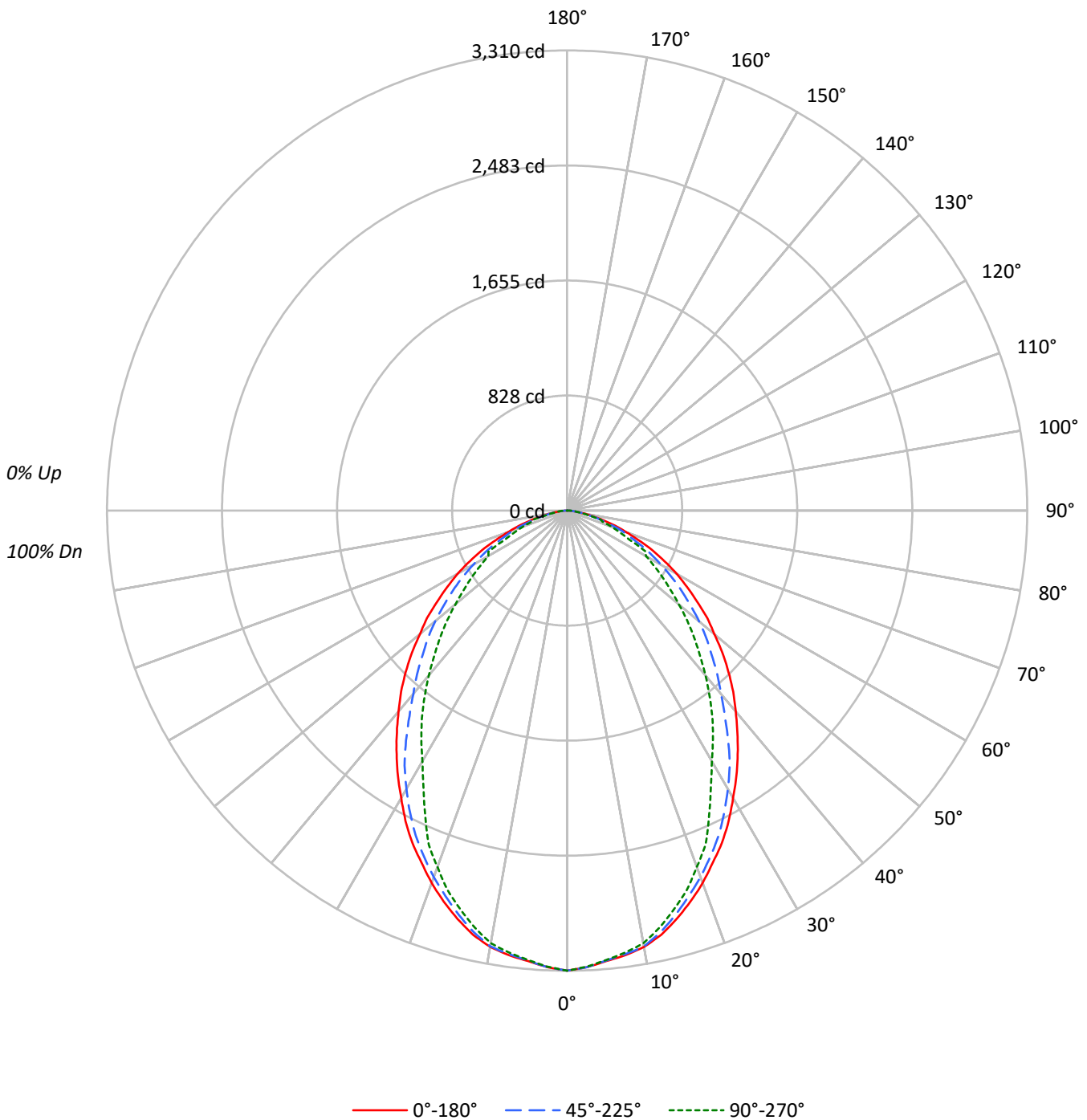
Lumens per Lamp: N/A  
Luminaire Lumens: 6497.0 lumens  
Efficiency: N/A  
Efficacy: 97.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

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

	0°	45°	90°
0°	8906	8906	8906
5°	8785	8774	8764
10°	8709	8698	8635
15°	8474	8389	8271
20°	8163	8031	7812
25°	7827	7657	7179
30°	7418	7181	6467
35°	7026	6636	5983
40°	6626	6048	5443
45°	6247	5591	4921
50°	5782	5189	4389
55°	5349	4703	3931
60°	4901	4201	3521
65°	4312	3678	3118
70°	3552	3221	2649
75°	2824	2466	2586
80°	1897	1779	1660
85°	1183	1417	1655

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6247 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	308.1	4.7
10°-20°	845.5	13.0
20°-30°	1170.5	18.0
30°-40°	1248.1	19.2
40°-50°	1138.6	17.5
50°-60°	892.0	13.7
60°-70°	581.4	8.9
70°-80°	257.6	4.0
80°-90°	55.3	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°	2324.0	35.8
0°-40°	3572.1	55.0
0°-60°	5602.7	86.2
0°-90°	6497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6497.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3310	3310	3310	3310	3310	
5°	3252	3248	3248	3244	3244	309
15°	3042	3042	3011	2980	2969	855
25°	2636	2621	2579	2487	2418	1210
35°	2139	2123	2020	1867	1821	1337
45°	1641	1607	1469	1347	1293	1264
55°	1140	1106	1002	884	838	1023
65°	677	639	578	589	490	667
75°	272	252	237	226	249	291
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°	3309.5	3309.5	3309.5	3309.5	3309.5
2.5°	3286.5	3286.5	3286.5	3282.7	3282.7
5°	3252.1	3248.3	3248.3	3244.4	3244.4
7.5°	3225.3	3221.5	3217.7	3213.8	3206.2
10°	3187.1	3187.1	3183.2	3164.1	3160.3
12.5°	3125.8	3122.0	3106.7	3079.9	3072.3
15°	3041.7	3041.7	3011.1	2980.4	2969.0
17.5°	2949.8	2946.0	2907.8	2877.1	2861.8
20°	2850.4	2842.7	2804.5	2754.7	2727.9
22.5°	2739.4	2739.4	2693.5	2628.5	2601.7
25°	2636.1	2620.8	2578.7	2486.9	2418.0
27.5°	2517.5	2494.5	2448.6	2318.6	2238.2
30°	2387.4	2375.9	2310.9	2142.6	2081.3
32.5°	2265.0	2245.9	2177.0	2001.0	1951.3
35°	2138.7	2123.4	2020.1	1867.1	1821.2
37.5°	2012.5	1993.3	1863.3	1740.8	1683.4
40°	1886.2	1863.3	1721.7	1610.7	1549.5
42.5°	1767.6	1737.0	1599.3	1480.7	1411.8
45°	1641.4	1606.9	1469.2	1346.7	1293.2
47.5°	1515.1	1484.5	1358.2	1232.0	1170.8
50°	1381.2	1354.4	1239.6	1113.4	1048.3
52.5°	1270.2	1228.1	1117.2	990.9	937.4
55°	1140.1	1105.7	1002.4	883.8	837.9
57.5°	1021.5	987.1	891.5	780.5	742.2
60°	910.6	860.8	780.5	684.9	654.2
62.5°	788.2	749.9	681.0	600.7	638.9
65°	677.2	638.9	577.7	589.2	489.7
67.5°	554.8	535.6	482.1	428.5	413.2
70°	451.5	428.5	409.4	352.0	336.7
72.5°	359.6	336.7	309.9	279.3	267.8
75°	271.6	252.5	237.2	225.7	248.7
77.5°	187.5	179.8	168.3	156.9	153.0
80°	122.4	118.6	114.8	111.0	107.1
82.5°	72.7	72.7	72.7	72.7	72.7
85°	38.3	42.1	45.9	49.7	53.6
87.5°	23.0	23.0	26.8	30.6	34.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)