

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: P561886

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561886  
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-82-97-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

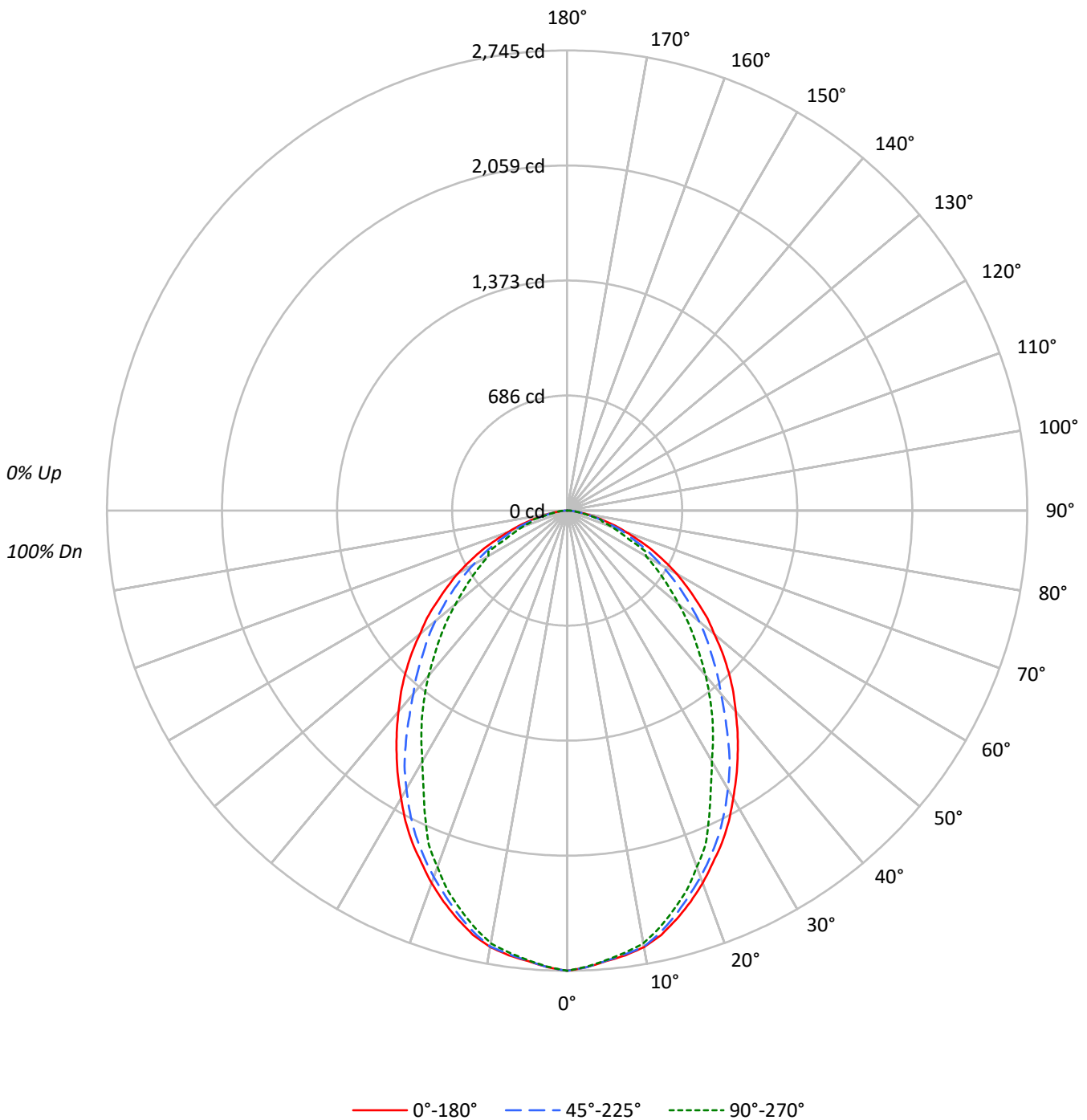
Lumens per Lamp: N/A  
Luminaire Lumens: 5389.0 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7387	7387	7387
5°	7287	7278	7269
10°	7223	7215	7163
15°	7029	6958	6861
20°	6771	6661	6480
25°	6492	6351	5955
30°	6153	5956	5364
35°	5828	5504	4962
40°	5496	5017	4515
45°	5181	4638	4082
50°	4796	4304	3640
55°	4437	3901	3261
60°	4065	3484	2921
65°	3577	3051	2586
70°	2947	2672	2198
75°	2342	2046	2145
80°	1574	1475	1378
85°	979	1176	1371

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5181 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	255.5	4.7
10°-20°	701.3	13.0
20°-30°	970.9	18.0
30°-40°	1035.2	19.2
40°-50°	944.4	17.5
50°-60°	739.9	13.7
60°-70°	482.2	8.9
70°-80°	213.7	4.0
80°-90°	45.9	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°	1927.7	35.8
0°-40°	2962.9	55.0
0°-60°	4647.2	86.2
0°-90°	5389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5389.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2745	2745	2745	2745	2745	
5°	2698	2694	2694	2691	2691	256
15°	2523	2523	2498	2472	2463	709
25°	2186	2174	2139	2063	2006	1004
35°	1774	1761	1676	1549	1511	1109
45°	1361	1333	1219	1117	1073	1049
55°	946	917	832	733	695	848
65°	562	530	479	489	406	554
75°	225	210	197	187	206	241
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2745.1	2745.1	2745.1	2745.1	2745.1
2.5°	2726.0	2726.0	2726.0	2722.9	2722.9
5°	2697.5	2694.3	2694.3	2691.1	2691.1
7.5°	2675.3	2672.1	2668.9	2665.7	2659.4
10°	2643.5	2643.5	2640.4	2624.5	2621.3
12.5°	2592.8	2589.6	2576.9	2554.7	2548.3
15°	2522.9	2522.9	2497.6	2472.2	2462.6
17.5°	2446.8	2443.6	2411.9	2386.5	2373.8
20°	2364.3	2357.9	2326.2	2284.9	2262.7
22.5°	2272.2	2272.2	2234.1	2180.2	2158.0
25°	2186.5	2173.9	2138.9	2062.8	2005.7
27.5°	2088.2	2069.1	2031.0	1923.1	1856.5
30°	1980.3	1970.7	1916.8	1777.2	1726.4
32.5°	1878.7	1862.8	1805.7	1659.7	1618.5
35°	1774.0	1761.3	1675.6	1548.7	1510.6
37.5°	1669.3	1653.4	1545.5	1443.9	1396.3
40°	1564.5	1545.5	1428.1	1336.0	1285.3
42.5°	1466.2	1440.8	1326.5	1228.1	1171.0
45°	1361.4	1332.9	1218.6	1117.1	1072.6
47.5°	1256.7	1231.3	1126.6	1021.9	971.1
50°	1145.6	1123.4	1028.2	923.5	869.5
52.5°	1053.6	1018.7	926.7	821.9	777.5
55°	945.7	917.1	831.5	733.1	695.0
57.5°	847.3	818.8	739.4	647.4	615.7
60°	755.3	714.0	647.4	568.1	542.7
62.5°	653.7	622.0	564.9	498.2	530.0
65°	561.7	530.0	479.2	488.7	406.2
67.5°	460.2	444.3	399.9	355.4	342.7
70°	374.5	355.4	339.6	292.0	279.3
72.5°	298.3	279.3	257.1	231.7	222.1
75°	225.3	209.5	196.8	187.2	206.3
77.5°	155.5	149.2	139.6	130.1	126.9
80°	101.6	98.4	95.2	92.0	88.9
82.5°	60.3	60.3	60.3	60.3	60.3
85°	31.7	34.9	38.1	41.3	44.4
87.5°	19.0	19.0	22.2	25.4	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)