

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: P561881

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561881  
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-82-88-EDD  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

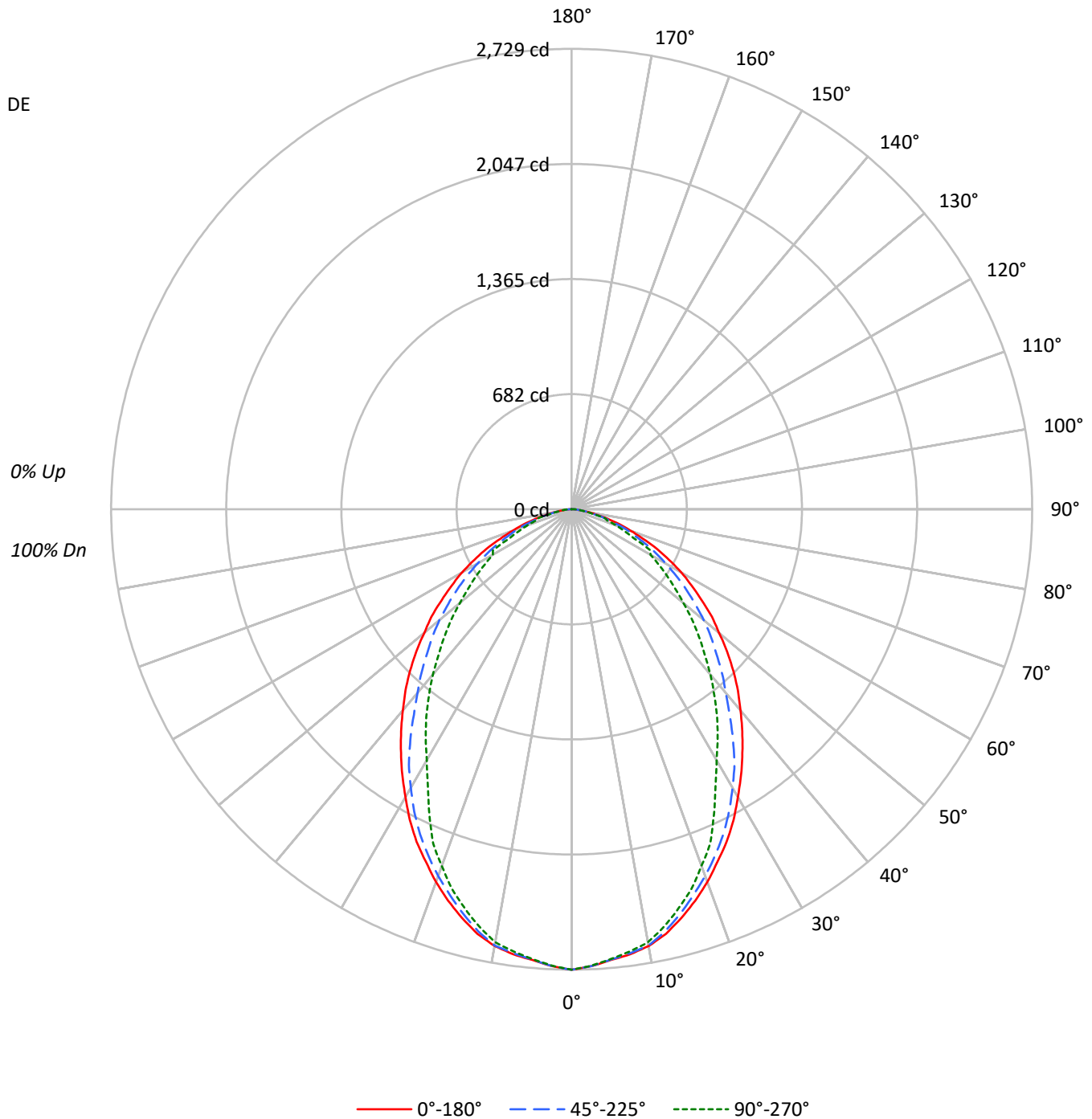
Lumens per Lamp: N/A  
Luminaire Lumens: 5358.0 lumens  
Efficiency: N/A  
Efficacy: 80.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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				
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°	7344	7344	7344
5°	7245	7236	7228
10°	7182	7173	7121
15°	6988	6918	6821
20°	6732	6623	6442
25°	6455	6314	5921
30°	6118	5922	5334
35°	5794	5473	4934
40°	5464	4988	4489
45°	5151	4611	4059
50°	4768	4280	3619
55°	4411	3879	3242
60°	4042	3464	2904
65°	3556	3033	2572
70°	2929	2656	2185
75°	2329	2034	2132
80°	1565	1468	1368
85°	976	1170	1365

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5151 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	254.1	4.7
10°-20°	697.2	13.0
20°-30°	965.3	18.0
30°-40°	1029.3	19.2
40°-50°	939.0	17.5
50°-60°	735.6	13.7
60°-70°	479.4	8.9
70°-80°	212.4	4.0
80°-90°	45.6	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°	1916.6	35.8
0°-40°	2945.9	55.0
0°-60°	4620.5	86.2
0°-90°	5358.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5358.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2729	2729	2729	2729	2729	
5°	2682	2679	2679	2676	2676	255
15°	2508	2508	2483	2458	2448	705
25°	2174	2161	2127	2051	1994	998
35°	1764	1751	1666	1540	1502	1103
45°	1354	1325	1212	1111	1066	1043
55°	940	912	827	729	691	843
65°	558	527	476	486	404	550
75°	224	208	196	186	205	240
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°	2729.3	2729.3	2729.3	2729.3	2729.3
2.5°	2710.4	2710.4	2710.4	2707.2	2707.2
5°	2682.0	2678.8	2678.8	2675.7	2675.7
7.5°	2659.9	2656.7	2653.6	2650.4	2644.1
10°	2628.3	2628.3	2625.2	2609.4	2606.2
12.5°	2577.8	2574.7	2562.1	2540.0	2533.7
15°	2508.4	2508.4	2483.2	2457.9	2448.5
17.5°	2432.7	2429.5	2398.0	2372.8	2360.1
20°	2350.7	2344.4	2312.8	2271.8	2249.7
22.5°	2259.2	2259.2	2221.3	2167.7	2145.6
25°	2174.0	2161.3	2126.6	2050.9	1994.1
27.5°	2076.2	2057.2	2019.4	1912.1	1845.8
30°	1968.9	1959.4	1905.8	1766.9	1716.5
32.5°	1867.9	1852.1	1795.3	1650.2	1609.2
35°	1763.8	1751.2	1666.0	1539.8	1501.9
37.5°	1659.7	1643.9	1536.6	1435.6	1388.3
40°	1555.5	1536.6	1419.9	1328.4	1277.9
42.5°	1457.7	1432.5	1318.9	1221.1	1164.3
45°	1353.6	1325.2	1211.6	1110.6	1066.5
47.5°	1249.5	1224.2	1120.1	1016.0	965.5
50°	1139.0	1117.0	1022.3	918.2	864.5
52.5°	1047.5	1012.8	921.3	817.2	773.0
55°	940.3	911.9	826.7	728.9	691.0
57.5°	842.5	814.1	735.2	643.7	612.1
60°	751.0	709.9	643.7	564.8	539.5
62.5°	650.0	618.4	561.6	495.4	526.9
65°	558.5	526.9	476.4	485.9	403.9
67.5°	457.5	441.7	397.6	353.4	340.8
70°	372.3	353.4	337.6	290.3	277.7
72.5°	296.6	277.7	255.6	230.3	220.9
75°	224.0	208.2	195.6	186.2	205.1
77.5°	154.6	148.3	138.8	129.4	126.2
80°	101.0	97.8	94.7	91.5	88.3
82.5°	59.9	59.9	59.9	59.9	59.9
85°	31.6	34.7	37.9	41.0	44.2
87.5°	18.9	18.9	22.1	25.2	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)