

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: P590496

Luminaire Tested: FSR-24-2-LD4-3HI-50-UNV-81-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590496  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-3HI-50-UNV-81-87-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

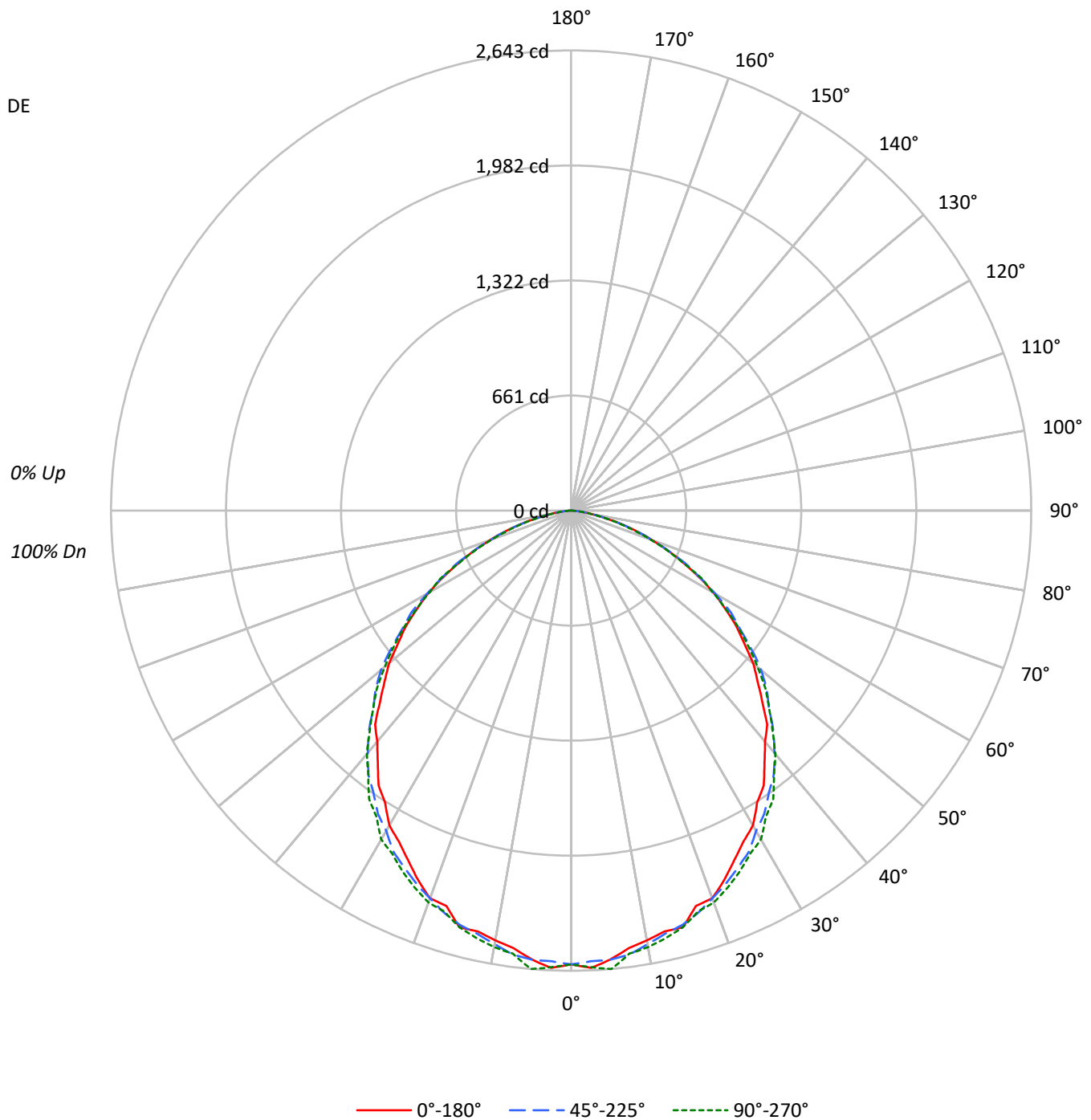
Lumens per Lamp: N/A  
Luminaire Lumens: 6569.0 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
Input Voltage (V):  
Input Current (Ain): NR  
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																		
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

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

	0°	45°	90°
0°	7014	7014	7014
5°	6991	6993	7141
10°	6849	6909	6957
15°	6903	6866	6904
20°	6786	6786	6859
25°	6578	6722	6796
30°	6487	6601	6777
35°	6335	6501	6646
40°	6088	6381	6410
45°	5904	6114	6123
50°	5710	5968	5854
55°	5441	5546	5507
60°	5088	5138	5046
65°	4536	4652	4504
70°	3892	3906	3797
75°	3083	3075	2957
80°	2066	2008	1929
85°	1121	1112	1041

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6272 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	245.2	3.7
10°-20°	694.9	10.6
20°-30°	1041.0	15.8
30°-40°	1233.8	18.8
40°-50°	1236.1	18.8
50°-60°	1049.2	16.0
60°-70°	707.4	10.8
70°-80°	310.8	4.7
80°-90°	50.5	0.8
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°	1981.0	30.2
0°-40°	3214.9	48.9
0°-60°	5500.2	83.7
0°-90°	6569.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6569.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2606	2606	2606	2606	2606	
5°	2588	2582	2589	2581	2643	244
15°	2478	2449	2464	2477	2478	690
25°	2215	2228	2264	2293	2289	1024
35°	1928	1934	1979	2025	2023	1197
45°	1551	1580	1607	1648	1609	1200
55°	1160	1152	1182	1174	1174	1032
65°	712	703	731	703	707	709
75°	296	290	296	275	284	318
85°	36	35	36	35	34	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2606.4	2606.4	2606.4	2606.4	2606.4
2.5°	2629.0	2609.1	2590.6	2612.1	2625.3
5°	2587.9	2581.8	2588.9	2581.2	2643.4
7.5°	2534.7	2558.0	2571.4	2563.0	2566.7
10°	2506.5	2498.4	2528.3	2549.2	2546.2
12.5°	2476.2	2488.3	2490.0	2512.5	2514.5
15°	2477.9	2449.3	2464.4	2477.2	2478.2
17.5°	2381.6	2412.6	2423.0	2452.3	2415.9
20°	2369.8	2347.3	2369.8	2399.8	2395.1
22.5°	2297.5	2272.2	2320.7	2347.3	2345.6
25°	2215.4	2227.5	2263.8	2293.4	2288.7
27.5°	2143.4	2157.5	2209.3	2250.0	2223.8
30°	2087.8	2080.8	2124.5	2160.8	2181.0
32.5°	1988.5	2014.1	2065.3	2101.3	2082.1
35°	1928.3	1934.0	1978.8	2024.6	2023.2
37.5°	1823.0	1849.6	1912.5	1925.3	1913.5
40°	1733.1	1759.7	1816.6	1830.4	1824.7
42.5°	1666.8	1671.5	1720.3	1736.2	1710.9
45°	1551.4	1580.3	1606.6	1648.0	1608.9
47.5°	1453.1	1466.6	1523.1	1534.2	1513.7
50°	1364.0	1368.7	1425.5	1411.7	1398.3
52.5°	1251.9	1271.7	1303.7	1301.0	1285.2
55°	1159.7	1151.9	1182.2	1174.1	1173.8
57.5°	1049.0	1062.4	1087.3	1074.5	1054.0
60°	945.3	945.6	954.7	940.3	937.6
62.5°	829.9	833.9	835.9	818.1	847.0
65°	712.4	703.0	730.6	702.7	707.4
67.5°	604.4	609.1	606.4	588.9	595.7
70°	494.7	500.8	496.4	476.5	482.6
72.5°	394.4	387.0	391.7	366.8	378.3
75°	296.5	290.4	295.8	274.9	284.4
77.5°	201.9	206.6	203.3	192.2	198.6
80°	133.3	129.6	129.6	123.2	124.5
82.5°	77.7	74.0	73.0	71.0	74.0
85°	36.3	35.3	36.0	35.0	33.7
87.5°	13.1	13.5	13.5	12.8	12.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)