

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: P561430

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561430  
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-LD4-2HI-40-UNV-82-87-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

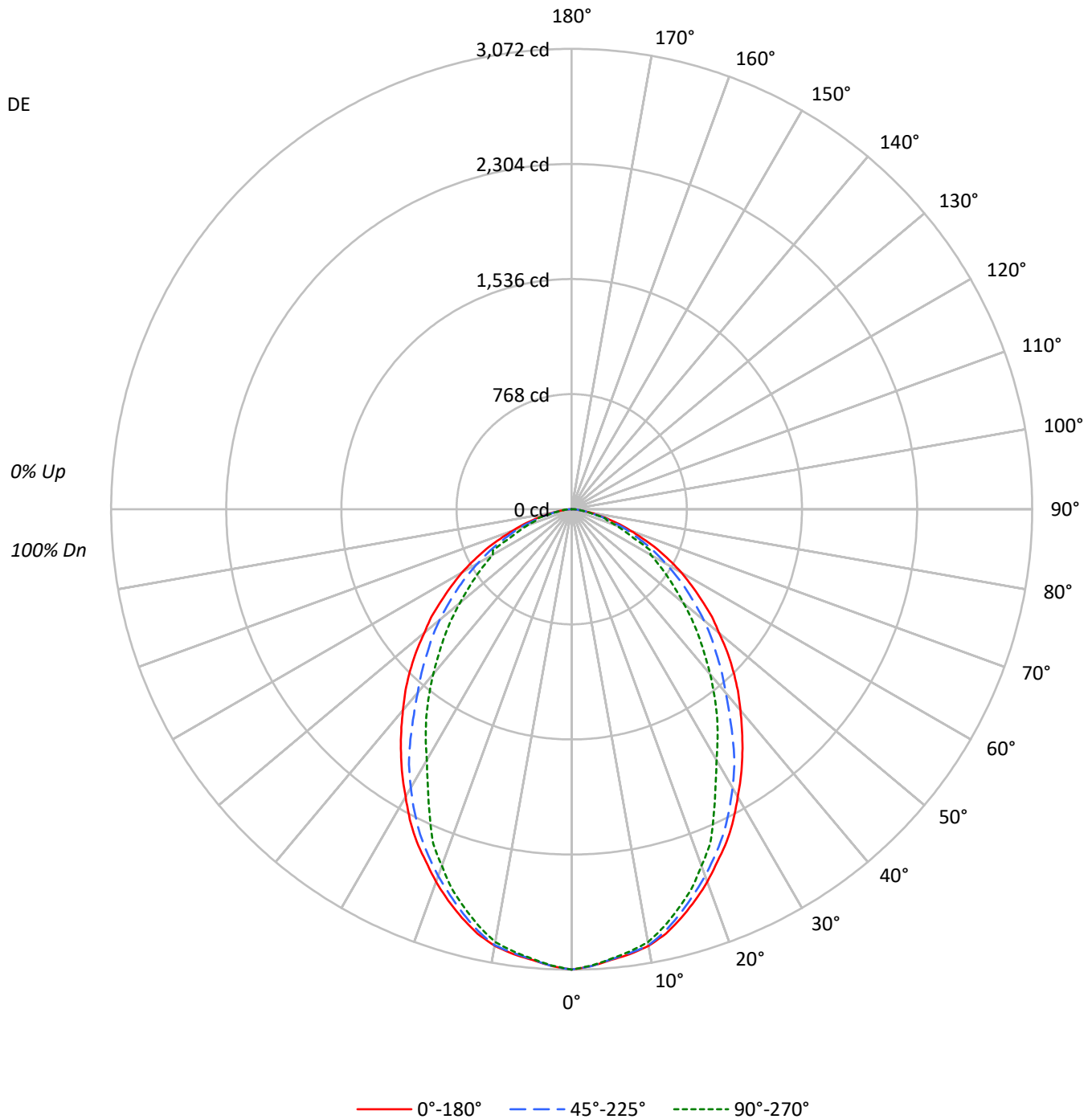
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6030.0 lumens  
Efficiency: N/A  
Efficacy: 69.8 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): 86.4  
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°	8266	8266	8266
5°	8153	8144	8134
10°	8083	8073	8015
15°	7865	7785	7677
20°	7576	7454	7251
25°	7264	7106	6663
30°	6885	6664	6002
35°	6521	6159	5553
40°	6150	5613	5052
45°	5797	5189	4568
50°	5367	4816	4073
55°	4965	4365	3649
60°	4548	3899	3268
65°	4002	3414	2894
70°	3297	2990	2459
75°	2621	2289	2400
80°	1760	1650	1540
85°	1096	1315	1535

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5797 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	285.9	4.7
10°-20°	784.7	13.0
20°-30°	1086.4	18.0
30°-40°	1158.4	19.2
40°-50°	1056.8	17.5
50°-60°	827.9	13.7
60°-70°	539.6	8.9
70°-80°	239.1	4.0
80°-90°	51.3	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°	2157.0	35.8
0°-40°	3315.3	55.0
0°-60°	5200.0	86.2
0°-90°	6030.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6030.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3072	3072	3072	3072	3072	
5°	3018	3015	3015	3011	3011	287
15°	2823	2823	2795	2766	2756	794
25°	2447	2432	2393	2308	2244	1123
35°	1985	1971	1875	1733	1690	1241
45°	1523	1491	1364	1250	1200	1173
55°	1058	1026	930	820	778	949
65°	628	593	536	547	454	619
75°	252	234	220	210	231	270
85°	36	39	43	46	50	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3071.6	3071.6	3071.6	3071.6	3071.6
2.5°	3050.3	3050.3	3050.3	3046.7	3046.7
5°	3018.3	3014.8	3014.8	3011.2	3011.2
7.5°	2993.5	2989.9	2986.4	2982.8	2975.7
10°	2958.0	2958.0	2954.4	2936.7	2933.1
12.5°	2901.2	2897.6	2883.4	2858.5	2851.4
15°	2823.0	2823.0	2794.6	2766.2	2755.6
17.5°	2737.8	2734.3	2698.7	2670.3	2656.1
20°	2645.5	2638.4	2602.9	2556.7	2531.9
22.5°	2542.5	2542.5	2499.9	2439.5	2414.7
25°	2446.6	2432.4	2393.4	2308.1	2244.2
27.5°	2336.5	2315.2	2272.6	2151.9	2077.3
30°	2215.8	2205.2	2144.8	1988.6	1931.7
32.5°	2102.2	2084.4	2020.5	1857.2	1811.0
35°	1985.0	1970.8	1874.9	1732.9	1690.3
37.5°	1867.8	1850.1	1729.3	1615.7	1562.4
40°	1750.6	1729.3	1597.9	1495.0	1438.1
42.5°	1640.6	1612.1	1484.3	1374.2	1310.3
45°	1523.4	1491.4	1363.6	1249.9	1200.2
47.5°	1406.2	1377.8	1260.6	1143.4	1086.6
50°	1281.9	1257.0	1150.5	1033.3	973.0
52.5°	1178.9	1139.9	1036.9	919.7	870.0
55°	1058.2	1026.2	930.4	820.3	777.7
57.5°	948.1	916.2	827.4	724.4	688.9
60°	845.1	799.0	724.4	635.6	607.2
62.5°	731.5	696.0	632.1	557.5	593.0
65°	628.5	593.0	536.2	546.9	454.5
67.5°	514.9	497.1	447.4	397.7	383.5
70°	419.0	397.7	380.0	326.7	312.5
72.5°	333.8	312.5	287.6	259.2	248.6
75°	252.1	234.4	220.2	209.5	230.8
77.5°	174.0	166.9	156.2	145.6	142.0
80°	113.6	110.1	106.5	103.0	99.4
82.5°	67.5	67.5	67.5	67.5	67.5
85°	35.5	39.1	42.6	46.2	49.7
87.5°	21.3	21.3	24.9	28.4	32.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)