

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: P560923

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560923  
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-LD4-1HI-50-UNV-82-94-EDD  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

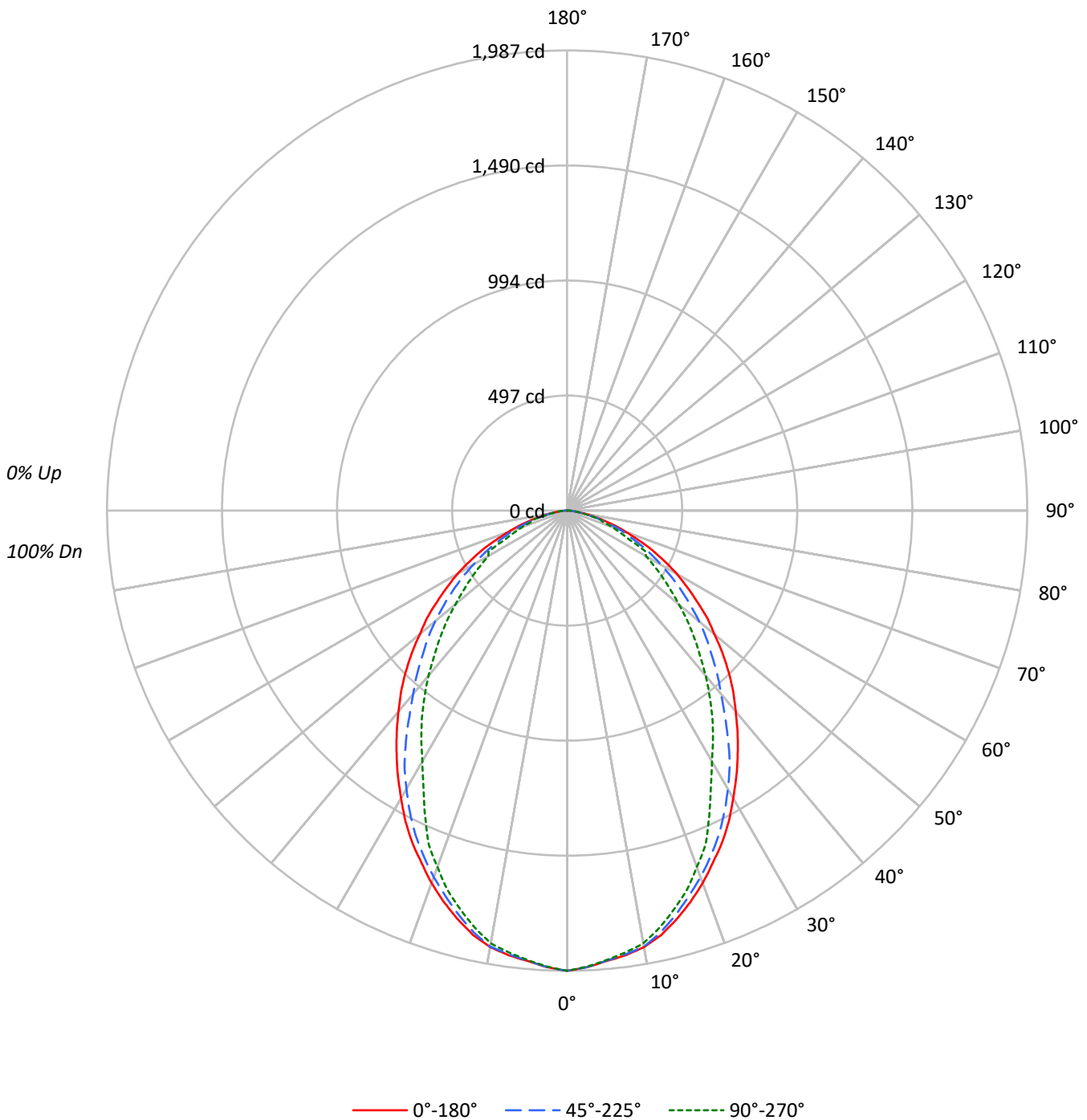
Lumens per Lamp: N/A  
Luminaire Lumens: 3901.0 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5347	5347	5347
5°	5275	5269	5262
10°	5229	5223	5185
15°	5088	5037	4966
20°	4901	4822	4690
25°	4700	4597	4311
30°	4454	4311	3883
35°	4219	3984	3592
40°	3978	3632	3268
45°	3750	3357	2955
50°	3472	3116	2635
55°	3212	2824	2360
60°	2942	2522	2114
65°	2589	2209	1872
70°	2133	1934	1591
75°	1696	1481	1552
80°	1139	1068	996
85°	710	852	994

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3750 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.0	4.7
10°-20°	507.6	13.0
20°-30°	702.8	18.0
30°-40°	749.4	19.2
40°-50°	683.6	17.5
50°-60°	535.6	13.7
60°-70°	349.1	8.9
70°-80°	154.7	4.0
80°-90°	33.2	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°	1395.4	35.8
0°-40°	2144.8	55.0
0°-60°	3364.1	86.2
0°-90°	3901.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3901.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1987	1987	1987	1987	1987	
5°	1953	1950	1950	1948	1948	185
15°	1826	1826	1808	1790	1783	513
25°	1583	1574	1548	1493	1452	727
35°	1284	1275	1213	1121	1094	803
45°	986	965	882	809	776	759
55°	685	664	602	531	503	614
65°	407	384	347	354	294	401
75°	163	152	142	136	149	175
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1987.1	1987.1	1987.1	1987.1	1987.1
2.5°	1973.3	1973.3	1973.3	1971.0	1971.0
5°	1952.7	1950.4	1950.4	1948.1	1948.1
7.5°	1936.6	1934.3	1932.0	1929.7	1925.1
10°	1913.6	1913.6	1911.3	1899.8	1897.5
12.5°	1876.8	1874.6	1865.4	1849.3	1844.7
15°	1826.3	1826.3	1807.9	1789.6	1782.7
17.5°	1771.2	1768.9	1745.9	1727.5	1718.3
20°	1711.4	1706.9	1683.9	1654.0	1637.9
22.5°	1644.8	1644.8	1617.3	1578.2	1562.1
25°	1582.8	1573.6	1548.3	1493.2	1451.9
27.5°	1511.6	1497.8	1470.2	1392.1	1343.9
30°	1433.5	1426.6	1387.5	1286.5	1249.7
32.5°	1360.0	1348.5	1307.1	1201.5	1171.6
35°	1284.2	1275.0	1212.9	1121.1	1093.5
37.5°	1208.4	1196.9	1118.8	1045.2	1010.8
40°	1132.5	1118.8	1033.8	967.1	930.4
42.5°	1061.3	1042.9	960.2	889.0	847.7
45°	985.5	964.8	882.1	808.6	776.5
47.5°	909.7	891.3	815.5	739.7	703.0
50°	829.3	813.2	744.3	668.5	629.4
52.5°	762.7	737.4	670.8	595.0	562.8
55°	684.6	663.9	601.9	530.7	503.1
57.5°	613.4	592.7	535.3	468.6	445.7
60°	546.7	516.9	468.6	411.2	392.8
62.5°	473.2	450.3	408.9	360.7	383.6
65°	406.6	383.6	346.9	353.8	294.0
67.5°	333.1	321.6	289.5	257.3	248.1
70°	271.1	257.3	245.8	211.3	202.2
72.5°	215.9	202.2	186.1	167.7	160.8
75°	163.1	151.6	142.4	135.5	149.3
77.5°	112.6	108.0	101.1	94.2	91.9
80°	73.5	71.2	68.9	66.6	64.3
82.5°	43.6	43.6	43.6	43.6	43.6
85°	23.0	25.3	27.6	29.9	32.2
87.5°	13.8	13.8	16.1	18.4	20.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)