

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: P560830

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560830  
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-40-UNV-80-97-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

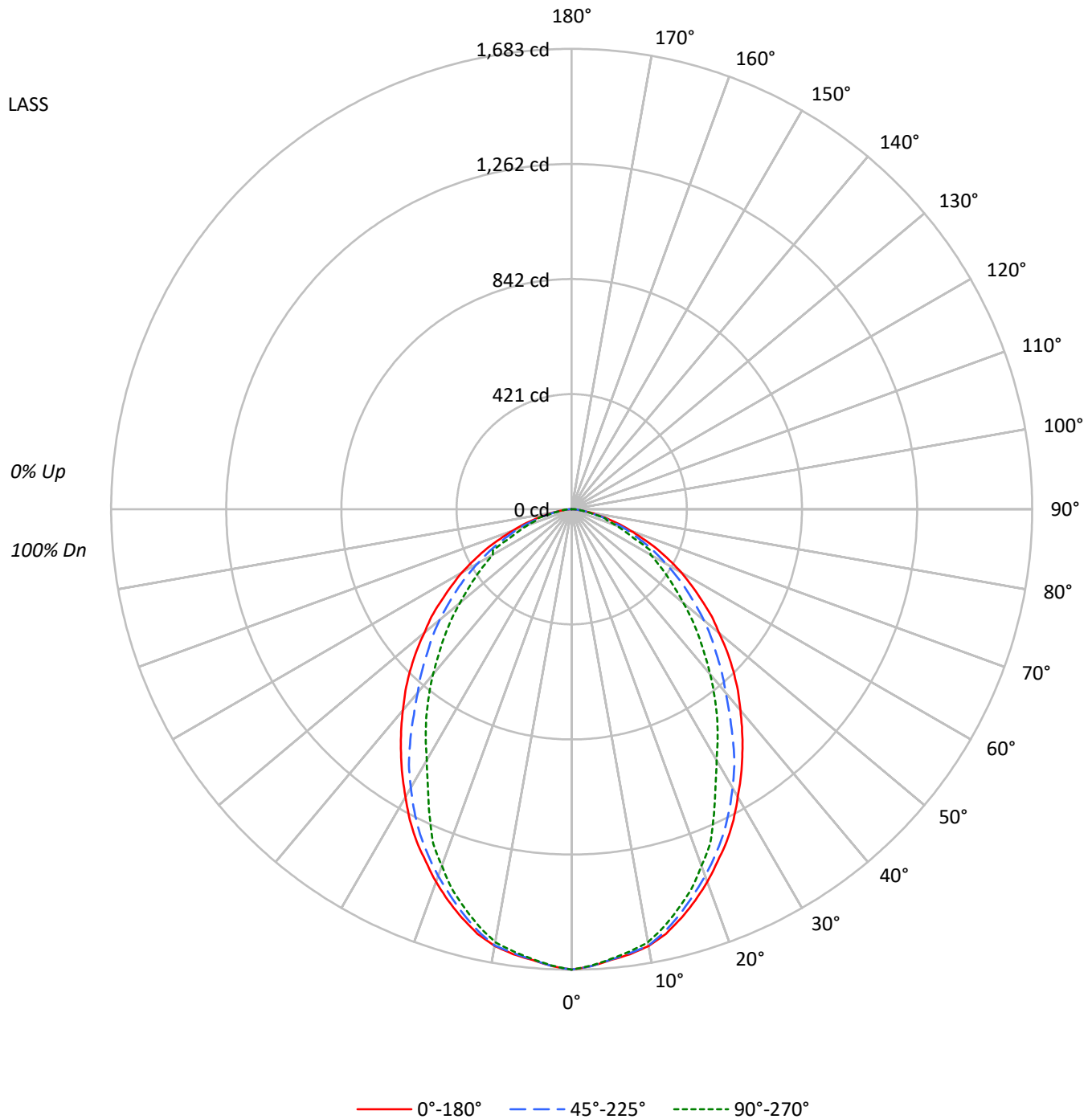
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3304.0 lumens  
Efficiency: N/A  
Efficacy: 76.5 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): 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	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°	4529	4529	4529
5°	4467	4462	4457
10°	4429	4423	4391
15°	4309	4266	4206
20°	4151	4084	3973
25°	3980	3894	3651
30°	3773	3652	3289
35°	3573	3375	3042
40°	3370	3076	2768
45°	3177	2843	2503
50°	2941	2639	2232
55°	2720	2392	1999
60°	2492	2136	1791
65°	2193	1871	1585
70°	1806	1638	1347
75°	1436	1254	1315
80°	965	905	845
85°	602	719	840

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3177 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.7	4.7
10°-20°	430.0	13.0
20°-30°	595.3	18.0
30°-40°	634.7	19.2
40°-50°	579.0	17.5
50°-60°	453.6	13.7
60°-70°	295.7	8.9
70°-80°	131.0	4.0
80°-90°	28.1	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°	1181.9	35.8
0°-40°	1816.6	55.0
0°-60°	2849.2	86.2
0°-90°	3304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3304.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1683	1683	1683	1683	1683	
5°	1654	1652	1652	1650	1650	157
15°	1547	1547	1531	1516	1510	435
25°	1341	1333	1311	1265	1230	615
35°	1088	1080	1027	950	926	680
45°	835	817	747	685	658	643
55°	580	562	510	450	426	520
65°	344	325	294	300	249	339
75°	138	128	121	115	126	148
85°	20	21	23	25	27	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1683.0	1683.0	1683.0	1683.0	1683.0
2.5°	1671.3	1671.3	1671.3	1669.4	1669.4
5°	1653.8	1651.9	1651.9	1649.9	1649.9
7.5°	1640.2	1638.3	1636.3	1634.4	1630.5
10°	1620.8	1620.8	1618.8	1609.1	1607.1
12.5°	1589.6	1587.7	1579.9	1566.3	1562.4
15°	1546.8	1546.8	1531.3	1515.7	1509.8
17.5°	1500.1	1498.2	1478.7	1463.2	1455.4
20°	1449.5	1445.6	1426.2	1400.9	1387.3
22.5°	1393.1	1393.1	1369.8	1336.7	1323.1
25°	1340.6	1332.8	1311.4	1264.7	1229.7
27.5°	1280.3	1268.6	1245.2	1179.1	1138.2
30°	1214.1	1208.3	1175.2	1089.6	1058.5
32.5°	1151.8	1142.1	1107.1	1017.6	992.3
35°	1087.6	1079.9	1027.3	949.5	926.1
37.5°	1023.4	1013.7	947.5	885.3	856.1
40°	959.2	947.5	875.6	819.1	788.0
42.5°	898.9	883.3	813.3	753.0	718.0
45°	834.7	817.2	747.1	684.9	657.6
47.5°	770.5	754.9	690.7	626.5	595.4
50°	702.4	688.8	630.4	566.2	533.1
52.5°	646.0	624.6	568.1	503.9	476.7
55°	579.8	562.3	509.8	449.5	426.1
57.5°	519.5	502.0	453.3	396.9	377.5
60°	463.1	437.8	396.9	348.3	332.7
62.5°	400.8	381.4	346.3	305.5	324.9
65°	344.4	324.9	293.8	299.6	249.0
67.5°	282.1	272.4	245.2	217.9	210.1
70°	229.6	217.9	208.2	179.0	171.2
72.5°	182.9	171.2	157.6	142.0	136.2
75°	138.1	128.4	120.6	114.8	126.5
77.5°	95.3	91.4	85.6	79.8	77.8
80°	62.3	60.3	58.4	56.4	54.5
82.5°	37.0	37.0	37.0	37.0	37.0
85°	19.5	21.4	23.3	25.3	27.2
87.5°	11.7	11.7	13.6	15.6	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)