

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: P560756

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560756  
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-35-UNV-80-86-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

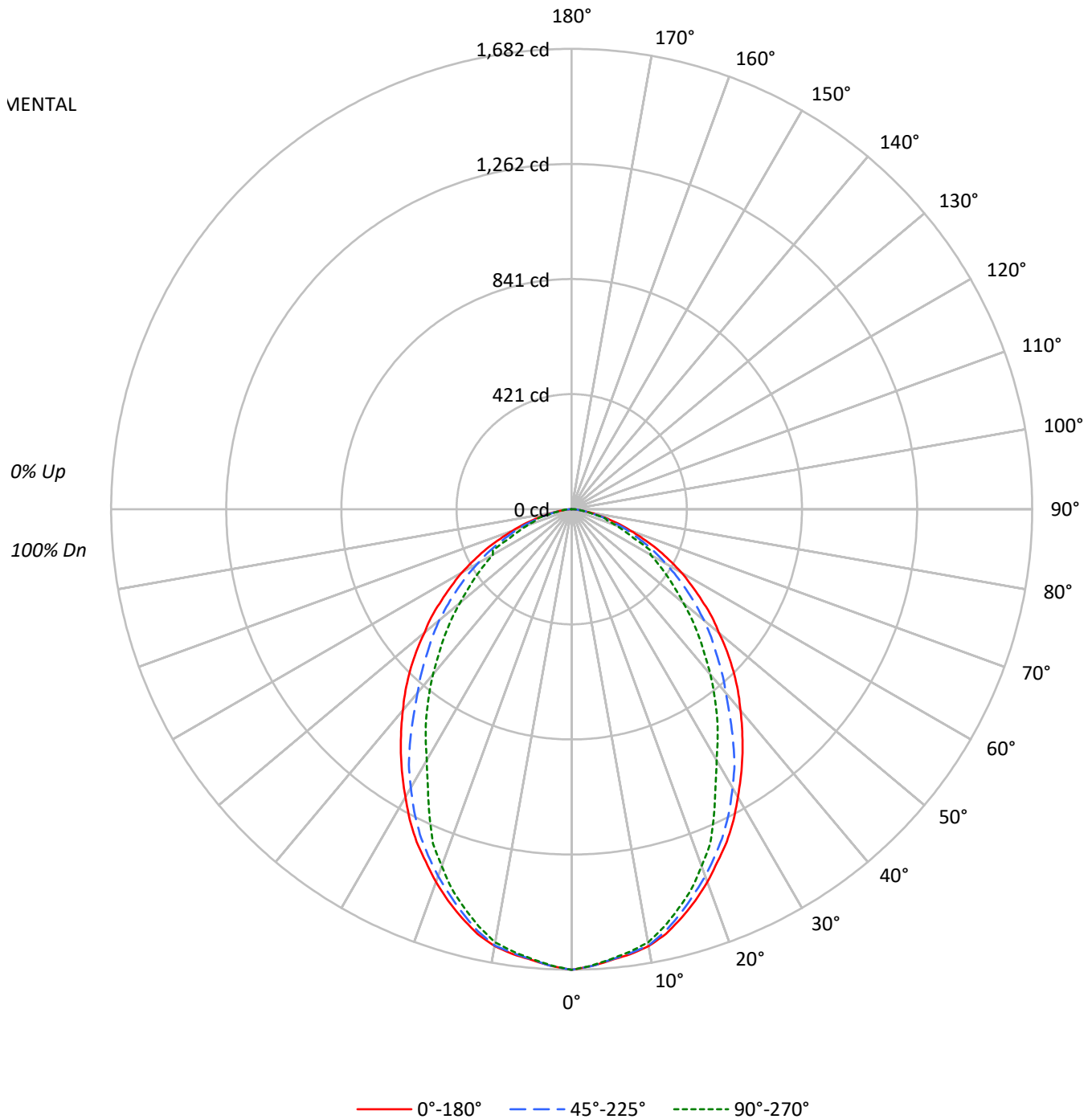
Lumens per Lamp: N/A  
Luminaire Lumens: 3303.0 lumens  
Efficiency: N/A  
Efficacy: 76.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4528	4528	4528
5°	4466	4461	4455
10°	4427	4422	4390
15°	4308	4265	4205
20°	4150	4083	3972
25°	3979	3893	3650
30°	3771	3650	3288
35°	3572	3374	3042
40°	3368	3075	2767
45°	3175	2842	2502
50°	2940	2638	2231
55°	2719	2391	1999
60°	2491	2136	1790
65°	2192	1870	1585
70°	1806	1637	1347
75°	1436	1254	1314
80°	964	905	845
85°	602	719	840

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3175 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.6	4.7
10°-20°	429.8	13.0
20°-30°	595.1	18.0
30°-40°	634.5	19.2
40°-50°	578.9	17.5
50°-60°	453.5	13.7
60°-70°	295.6	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°	1181.5	35.8
0°-40°	1816.0	55.0
0°-60°	2848.4	86.2
0°-90°	3303.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3303.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1682	1682	1682	1682	1682	
5°	1653	1651	1651	1649	1649	157
15°	1546	1546	1531	1515	1509	435
25°	1340	1332	1311	1264	1229	615
35°	1087	1080	1027	949	926	680
45°	834	817	747	685	657	643
55°	580	562	510	449	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°	1682.5	1682.5	1682.5	1682.5	1682.5
2.5°	1670.8	1670.8	1670.8	1668.9	1668.9
5°	1653.3	1651.4	1651.4	1649.4	1649.4
7.5°	1639.7	1637.8	1635.8	1633.9	1630.0
10°	1620.3	1620.3	1618.3	1608.6	1606.6
12.5°	1589.1	1587.2	1579.4	1565.8	1561.9
15°	1546.3	1546.3	1530.8	1515.2	1509.4
17.5°	1499.7	1497.7	1478.3	1462.7	1454.9
20°	1449.1	1445.2	1425.8	1400.5	1386.9
22.5°	1392.7	1392.7	1369.3	1336.3	1322.7
25°	1340.2	1332.4	1311.0	1264.3	1229.3
27.5°	1279.9	1268.2	1244.9	1178.7	1137.9
30°	1213.7	1207.9	1174.8	1089.3	1058.1
32.5°	1151.5	1141.8	1106.8	1017.3	992.0
35°	1087.3	1079.5	1027.0	949.2	925.9
37.5°	1023.1	1013.4	947.3	885.0	855.8
40°	958.9	947.3	875.3	818.9	787.8
42.5°	898.6	883.1	813.0	752.8	717.7
45°	834.4	816.9	746.9	684.7	657.4
47.5°	770.3	754.7	690.5	626.3	595.2
50°	702.2	688.6	630.2	566.0	533.0
52.5°	645.8	624.4	568.0	503.8	476.5
55°	579.6	562.1	509.6	449.3	426.0
57.5°	519.3	501.8	453.2	396.8	377.3
60°	462.9	437.6	396.8	348.2	332.6
62.5°	400.7	381.2	346.2	305.4	324.8
65°	344.3	324.8	293.7	299.5	249.0
67.5°	282.0	272.3	245.1	217.9	210.1
70°	229.5	217.9	208.1	178.9	171.2
72.5°	182.8	171.2	157.6	142.0	136.2
75°	138.1	128.4	120.6	114.8	126.4
77.5°	95.3	91.4	85.6	79.7	77.8
80°	62.2	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)