

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: P562183

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562183  
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-24-4-LD4-1LO-40-UNV-81-87-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

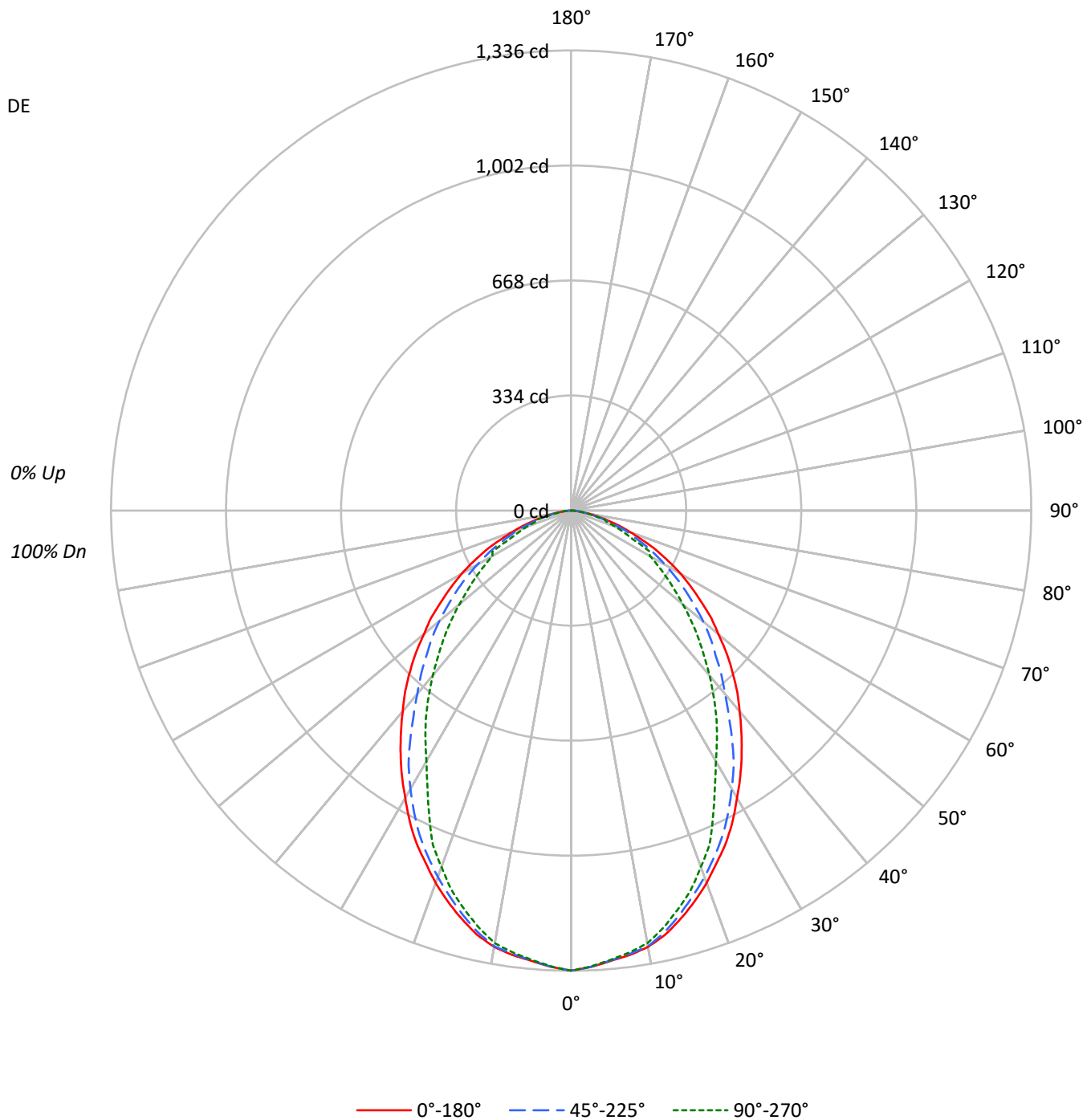
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2622.0 lumens  
Efficiency: N/A  
Efficacy: 112.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
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	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°	1797	1797	1797
5°	1773	1771	1769
10°	1757	1755	1743
15°	1710	1693	1669
20°	1647	1621	1576
25°	1579	1545	1449
30°	1497	1449	1305
35°	1418	1339	1207
40°	1337	1220	1098
45°	1260	1128	993
50°	1167	1047	886
55°	1079	949	793
60°	989	848	710
65°	870	742	629
70°	717	650	535
75°	570	498	522
80°	383	359	335
85°	238	286	333

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1260 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.3	4.7
10°-20°	341.2	13.0
20°-30°	472.4	18.0
30°-40°	503.7	19.2
40°-50°	459.5	17.5
50°-60°	360.0	13.7
60°-70°	234.6	8.9
70°-80°	104.0	4.0
80°-90°	22.3	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°	937.9	35.8
0°-40°	1441.6	55.0
0°-60°	2261.1	86.2
0°-90°	2622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2622.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1336	1336	1336	1336	1336	
5°	1312	1311	1311	1309	1309	125
15°	1228	1228	1215	1203	1198	345
25°	1064	1058	1041	1004	976	488
35°	863	857	815	754	735	540
45°	662	648	593	544	522	510
55°	460	446	404	357	338	413
65°	273	258	233	238	198	269
75°	110	102	96	91	100	117
85°	15	17	18	20	22	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1335.6	1335.6	1335.6	1335.6	1335.6
2.5°	1326.3	1326.3	1326.3	1324.8	1324.8
5°	1312.5	1310.9	1310.9	1309.4	1309.4
7.5°	1301.6	1300.1	1298.6	1297.0	1293.9
10°	1286.2	1286.2	1284.7	1276.9	1275.4
12.5°	1261.5	1260.0	1253.8	1243.0	1239.9
15°	1227.5	1227.5	1215.2	1202.8	1198.2
17.5°	1190.5	1188.9	1173.5	1161.1	1155.0
20°	1150.3	1147.2	1131.8	1111.7	1100.9
22.5°	1105.5	1105.5	1087.0	1060.8	1050.0
25°	1063.9	1057.7	1040.7	1003.6	975.8
27.5°	1016.0	1006.7	988.2	935.7	903.3
30°	963.5	958.9	932.6	864.7	840.0
32.5°	914.1	906.4	878.6	807.5	787.5
35°	863.1	857.0	815.3	753.5	735.0
37.5°	812.2	804.5	752.0	702.5	679.4
40°	761.2	752.0	694.8	650.0	625.3
42.5°	713.4	701.0	645.4	597.6	569.8
45°	662.4	648.5	592.9	543.5	521.9
47.5°	611.4	599.1	548.1	497.2	472.5
50°	557.4	546.6	500.3	449.3	423.1
52.5°	512.6	495.6	450.9	399.9	378.3
55°	460.1	446.2	404.5	356.7	338.1
57.5°	412.3	398.4	359.8	315.0	299.5
60°	367.5	347.4	315.0	276.4	264.0
62.5°	318.1	302.6	274.8	242.4	257.9
65°	273.3	257.9	233.2	237.8	197.6
67.5°	223.9	216.2	194.6	172.9	166.8
70°	182.2	172.9	165.2	142.1	135.9
72.5°	145.1	135.9	125.1	112.7	108.1
75°	109.6	101.9	95.7	91.1	100.4
77.5°	75.7	72.6	67.9	63.3	61.8
80°	49.4	47.9	46.3	44.8	43.2
82.5°	29.3	29.3	29.3	29.3	29.3
85°	15.4	17.0	18.5	20.1	21.6
87.5°	9.3	9.3	10.8	12.4	13.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)