

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: P562282

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562282  
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-50-UNV-93-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

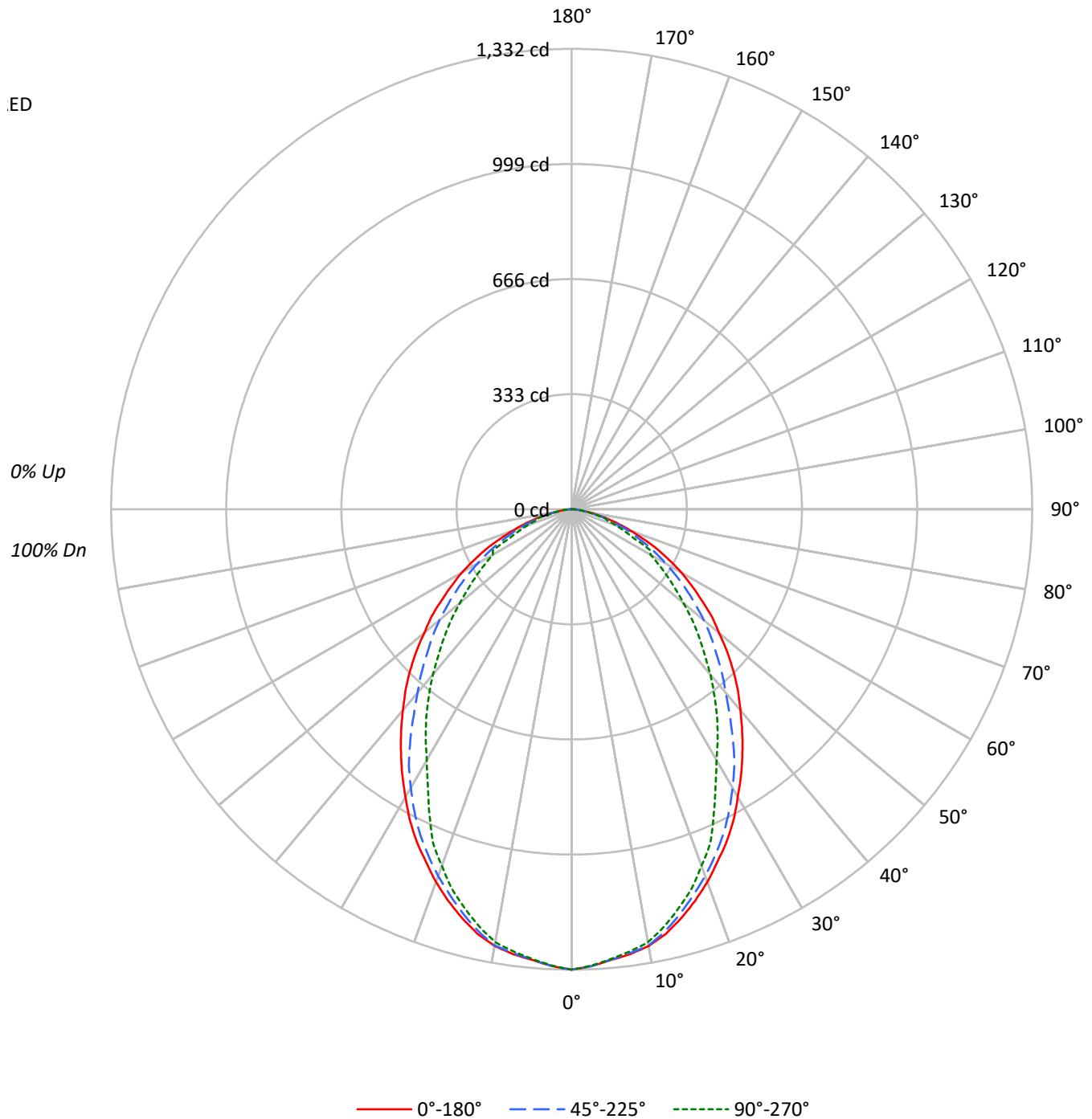
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2615.0 lumens  
Efficiency: N/A  
Efficacy: 111.8 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	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°	1792	1792	1792
5°	1768	1766	1764
10°	1753	1750	1738
15°	1705	1688	1665
20°	1643	1616	1572
25°	1575	1541	1445
30°	1493	1445	1301
35°	1414	1336	1204
40°	1333	1217	1095
45°	1257	1125	990
50°	1164	1044	883
55°	1076	947	791
60°	986	845	709
65°	868	740	628
70°	715	648	533
75°	568	496	520
80°	382	358	334
85°	238	286	333

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1257 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.0	4.7
10°-20°	340.3	13.0
20°-30°	471.1	18.0
30°-40°	502.3	19.2
40°-50°	458.3	17.5
50°-60°	359.0	13.7
60°-70°	234.0	8.9
70°-80°	103.7	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°	935.4	35.8
0°-40°	1437.8	55.0
0°-60°	2255.1	86.2
0°-90°	2615.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2615.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1309	1307	1307	1306	1306	124
15°	1224	1224	1212	1200	1195	344
25°	1061	1055	1038	1001	973	487
35°	861	855	813	752	733	538
45°	661	647	591	542	520	509
55°	459	445	404	356	337	412
65°	273	257	232	237	197	269
75°	109	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°	1332.0	1332.0	1332.0	1332.0	1332.0
2.5°	1322.8	1322.8	1322.8	1321.3	1321.3
5°	1308.9	1307.4	1307.4	1305.9	1305.9
7.5°	1298.2	1296.6	1295.1	1293.5	1290.5
10°	1282.8	1282.8	1281.2	1273.5	1272.0
12.5°	1258.1	1256.6	1250.4	1239.6	1236.6
15°	1224.3	1224.3	1211.9	1199.6	1195.0
17.5°	1187.3	1185.8	1170.4	1158.0	1151.9
20°	1147.3	1144.2	1128.8	1108.8	1098.0
22.5°	1102.6	1102.6	1084.1	1057.9	1047.2
25°	1061.0	1054.9	1037.9	1001.0	973.2
27.5°	1013.3	1004.0	985.6	933.2	900.9
30°	960.9	956.3	930.1	862.4	837.7
32.5°	911.6	903.9	876.2	805.4	785.4
35°	860.8	854.7	813.1	751.5	733.0
37.5°	810.0	802.3	749.9	700.7	677.6
40°	759.2	749.9	693.0	648.3	623.7
42.5°	711.5	699.1	643.7	596.0	568.2
45°	660.6	646.8	591.3	542.1	520.5
47.5°	609.8	597.5	546.7	495.9	471.2
50°	555.9	545.1	498.9	448.1	421.9
52.5°	511.3	494.3	449.7	398.8	377.3
55°	458.9	445.0	403.5	355.7	337.2
57.5°	411.2	397.3	358.8	314.1	298.7
60°	366.5	346.5	314.1	275.6	263.3
62.5°	317.2	301.8	274.1	241.8	257.2
65°	272.6	257.2	232.5	237.2	197.1
67.5°	223.3	215.6	194.0	172.5	166.3
70°	181.7	172.5	164.8	141.7	135.5
72.5°	144.8	135.5	124.7	112.4	107.8
75°	109.3	101.6	95.5	90.9	100.1
77.5°	75.5	72.4	67.8	63.1	61.6
80°	49.3	47.7	46.2	44.7	43.1
82.5°	29.3	29.3	29.3	29.3	29.3
85°	15.4	16.9	18.5	20.0	21.6
87.5°	9.2	9.2	10.8	12.3	13.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)