

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: P562231

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562231  
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-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

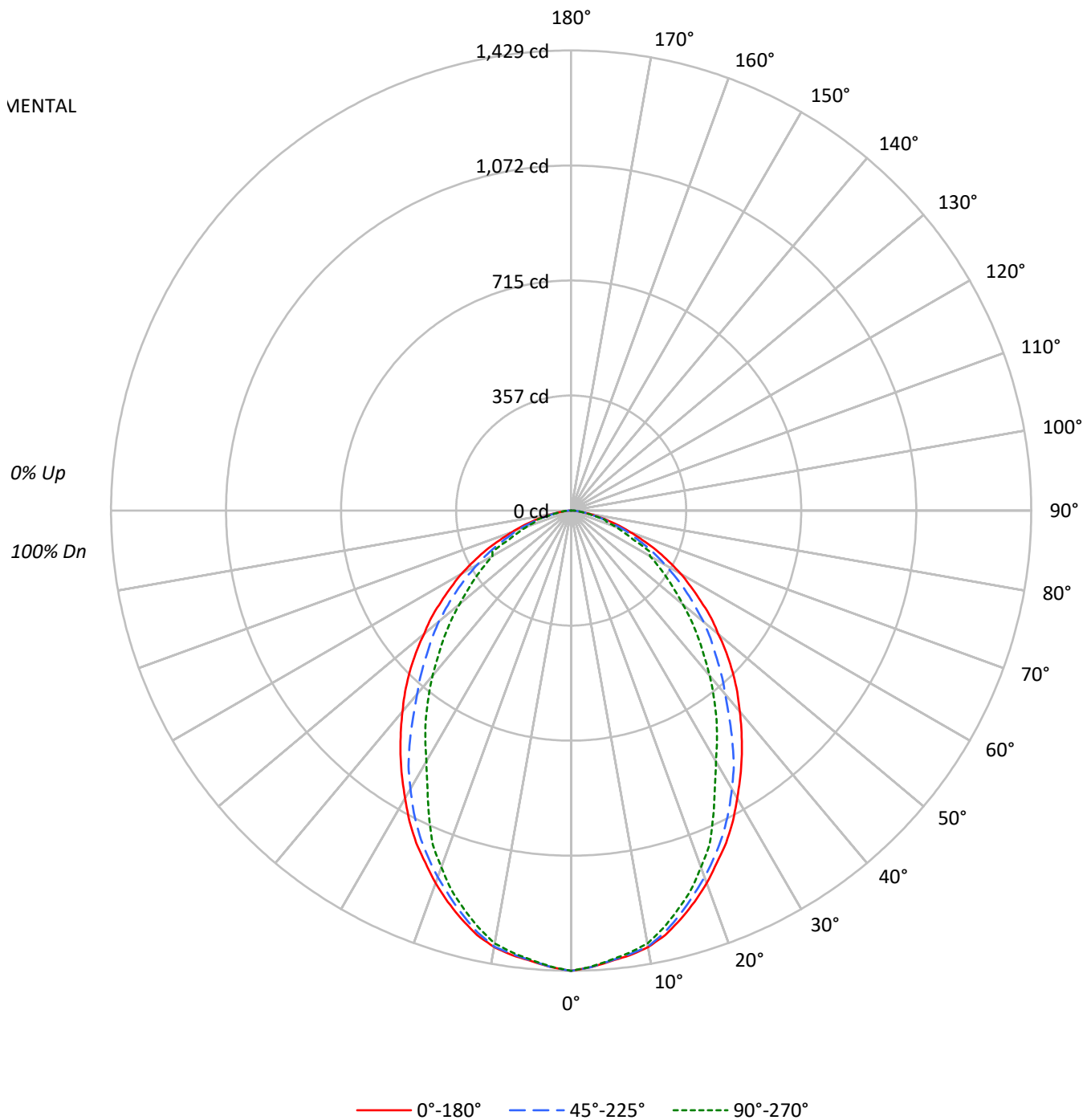
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2806.0 lumens  
Efficiency: N/A  
Efficacy: 119.9 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	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°	1923	1923	1923
5°	1897	1895	1893
10°	1881	1878	1865
15°	1830	1812	1786
20°	1763	1734	1687
25°	1690	1653	1550
30°	1602	1551	1397
35°	1517	1433	1292
40°	1431	1306	1175
45°	1349	1207	1063
50°	1249	1121	948
55°	1155	1015	849
60°	1058	907	760
65°	931	794	673
70°	767	696	572
75°	610	532	558
80°	410	384	359
85°	255	306	357

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1349 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.1	4.7
10°-20°	365.2	13.0
20°-30°	505.5	18.0
30°-40°	539.0	19.2
40°-50°	491.8	17.5
50°-60°	385.3	13.7
60°-70°	251.1	8.9
70°-80°	111.2	4.0
80°-90°	23.9	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°	1003.7	35.8
0°-40°	1542.8	55.0
0°-60°	2419.8	86.2
0°-90°	2806.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2806.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1429	1429	1429	1429	1429	
5°	1405	1403	1403	1401	1401	133
15°	1314	1314	1300	1287	1282	369
25°	1138	1132	1114	1074	1044	523
35°	924	917	872	806	786	577
45°	709	694	634	582	558	546
55°	492	478	433	382	362	442
65°	292	276	250	254	212	288
75°	117	109	102	98	107	126
85°	16	18	20	22	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1429.3	1429.3	1429.3	1429.3	1429.3
2.5°	1419.4	1419.4	1419.4	1417.8	1417.8
5°	1404.6	1402.9	1402.9	1401.2	1401.2
7.5°	1393.0	1391.3	1389.7	1388.0	1384.7
10°	1376.5	1376.5	1374.8	1366.5	1364.9
12.5°	1350.0	1348.4	1341.8	1330.2	1326.9
15°	1313.7	1313.7	1300.5	1287.2	1282.3
17.5°	1274.0	1272.4	1255.8	1242.6	1236.0
20°	1231.0	1227.7	1211.2	1189.7	1178.2
22.5°	1183.1	1183.1	1163.3	1135.2	1123.6
25°	1138.5	1131.9	1113.7	1074.1	1044.3
27.5°	1087.3	1077.4	1057.5	1001.4	966.7
30°	1031.1	1026.1	998.1	925.4	898.9
32.5°	978.2	970.0	940.2	864.2	842.7
35°	923.7	917.1	872.5	806.4	786.5
37.5°	869.2	860.9	804.7	751.8	727.1
40°	814.6	804.7	743.6	695.7	669.2
42.5°	763.4	750.2	690.7	639.5	609.7
45°	708.9	694.0	634.5	581.7	558.5
47.5°	654.4	641.1	586.6	532.1	505.6
50°	596.5	585.0	535.4	480.9	452.8
52.5°	548.6	530.4	482.5	428.0	404.8
55°	492.4	477.5	432.9	381.7	361.9
57.5°	441.2	426.3	385.0	337.1	320.6
60°	393.3	371.8	337.1	295.8	282.6
62.5°	340.4	323.9	294.1	259.4	276.0
65°	292.5	276.0	249.5	254.5	211.5
67.5°	239.6	231.3	208.2	185.1	178.5
70°	195.0	185.1	176.8	152.0	145.4
72.5°	155.3	145.4	133.8	120.6	115.7
75°	117.3	109.1	102.4	97.5	107.4
77.5°	81.0	77.7	72.7	67.7	66.1
80°	52.9	51.2	49.6	47.9	46.3
82.5°	31.4	31.4	31.4	31.4	31.4
85°	16.5	18.2	19.8	21.5	23.1
87.5°	9.9	9.9	11.6	13.2	14.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)