

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: P562182

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562182  
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-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

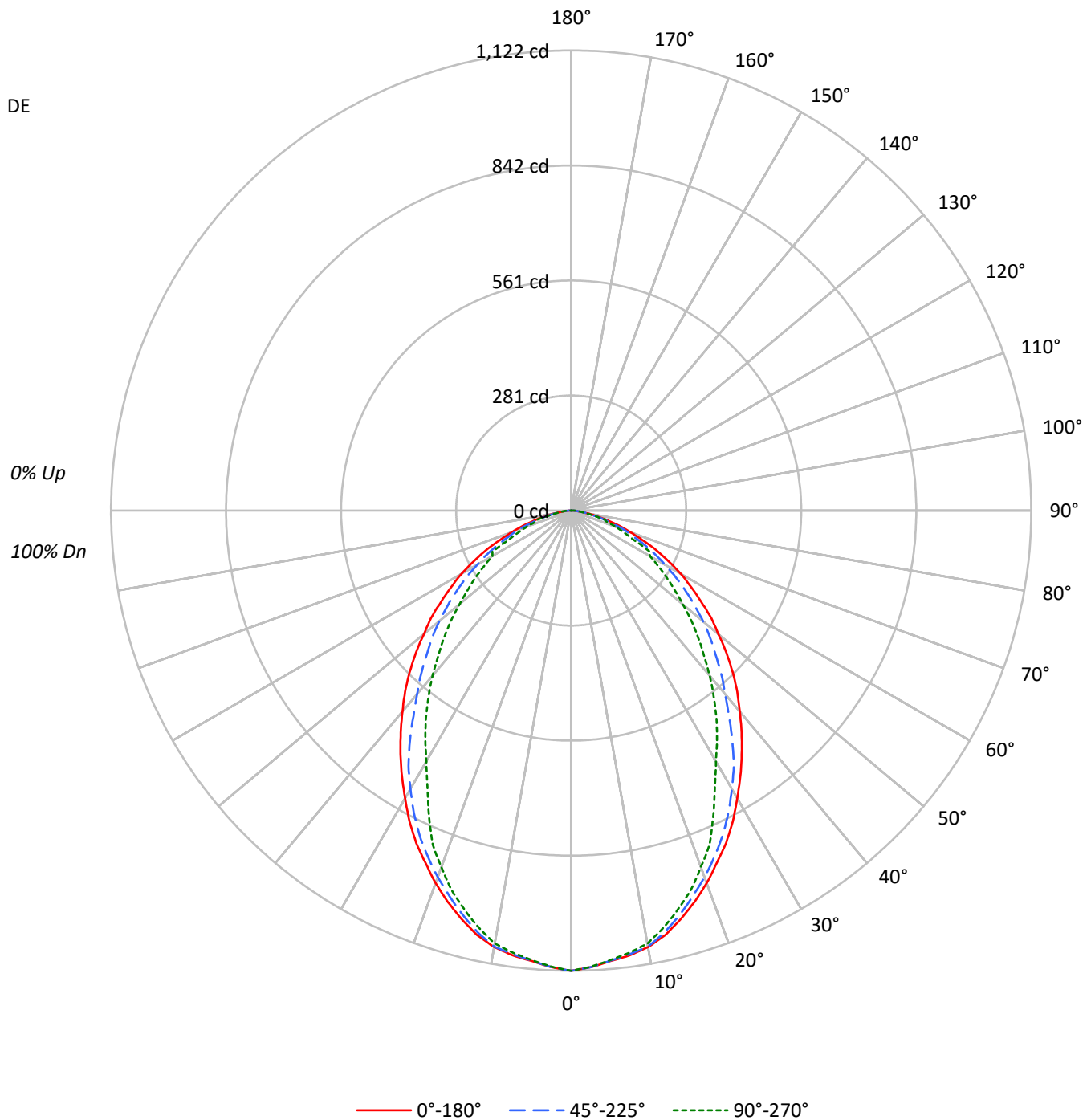
Lumens per Lamp: N/A  
Luminaire Lumens: 2203.0 lumens  
Efficiency: N/A  
Efficacy: 94.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	1510	1510	1510
5°	1489	1488	1486
10°	1477	1475	1464
15°	1437	1422	1402
20°	1384	1362	1324
25°	1327	1298	1217
30°	1258	1217	1096
35°	1191	1125	1014
40°	1123	1025	923
45°	1059	948	834
50°	980	880	744
55°	907	797	666
60°	831	712	597
65°	731	624	529
70°	602	546	449
75°	479	418	438
80°	322	301	281
85°	201	241	281

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1059 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.5	4.7
10°-20°	286.7	13.0
20°-30°	396.9	18.0
30°-40°	423.2	19.2
40°-50°	386.1	17.5
50°-60°	302.5	13.7
60°-70°	197.1	8.9
70°-80°	87.3	4.0
80°-90°	18.7	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°	788.0	35.8
0°-40°	1211.2	55.0
0°-60°	1899.8	86.2
0°-90°	2203.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2203.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1122	1122	1122	1122	1122	
5°	1103	1101	1101	1100	1100	105
15°	1031	1031	1021	1011	1007	290
25°	894	889	874	843	820	410
35°	725	720	685	633	618	453
45°	556	545	498	457	438	429
55°	387	375	340	300	284	347
65°	230	217	196	200	166	226
75°	92	86	80	76	84	99
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1122.2	1122.2	1122.2	1122.2	1122.2
2.5°	1114.4	1114.4	1114.4	1113.1	1113.1
5°	1102.7	1101.4	1101.4	1100.1	1100.1
7.5°	1093.6	1092.3	1091.0	1089.7	1087.2
10°	1080.7	1080.7	1079.4	1072.9	1071.6
12.5°	1059.9	1058.6	1053.4	1044.3	1041.7
15°	1031.4	1031.4	1021.0	1010.6	1006.7
17.5°	1000.2	998.9	986.0	975.6	970.4
20°	966.5	963.9	950.9	934.1	925.0
22.5°	928.9	928.9	913.3	891.3	882.2
25°	893.9	888.7	874.4	843.3	819.9
27.5°	853.6	845.9	830.3	786.2	758.9
30°	809.5	805.6	783.6	726.5	705.7
32.5°	768.0	761.5	738.2	678.5	661.6
35°	725.2	720.0	685.0	633.1	617.5
37.5°	682.4	675.9	631.8	590.3	570.8
40°	639.6	631.8	583.8	546.2	525.4
42.5°	599.4	589.0	542.3	502.1	478.7
45°	556.5	544.9	498.2	456.7	438.5
47.5°	513.7	503.4	460.5	417.7	397.0
50°	468.3	459.3	420.3	377.5	355.5
52.5°	430.7	416.4	378.8	336.0	317.8
55°	386.6	374.9	339.9	299.7	284.1
57.5°	346.4	334.7	302.3	264.7	251.7
60°	308.8	291.9	264.7	232.2	221.8
62.5°	267.2	254.3	230.9	203.7	216.7
65°	229.6	216.7	195.9	199.8	166.1
67.5°	188.1	181.6	163.5	145.3	140.1
70°	153.1	145.3	138.8	119.4	114.2
72.5°	121.9	114.2	105.1	94.7	90.8
75°	92.1	85.6	80.4	76.5	84.3
77.5°	63.6	61.0	57.1	53.2	51.9
80°	41.5	40.2	38.9	37.6	36.3
82.5°	24.6	24.6	24.6	24.6	24.6
85°	13.0	14.3	15.6	16.9	18.2
87.5°	7.8	7.8	9.1	10.4	11.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)