

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: P562903

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-82-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562903  
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-LD4-2STD-35-UNV-82-87-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

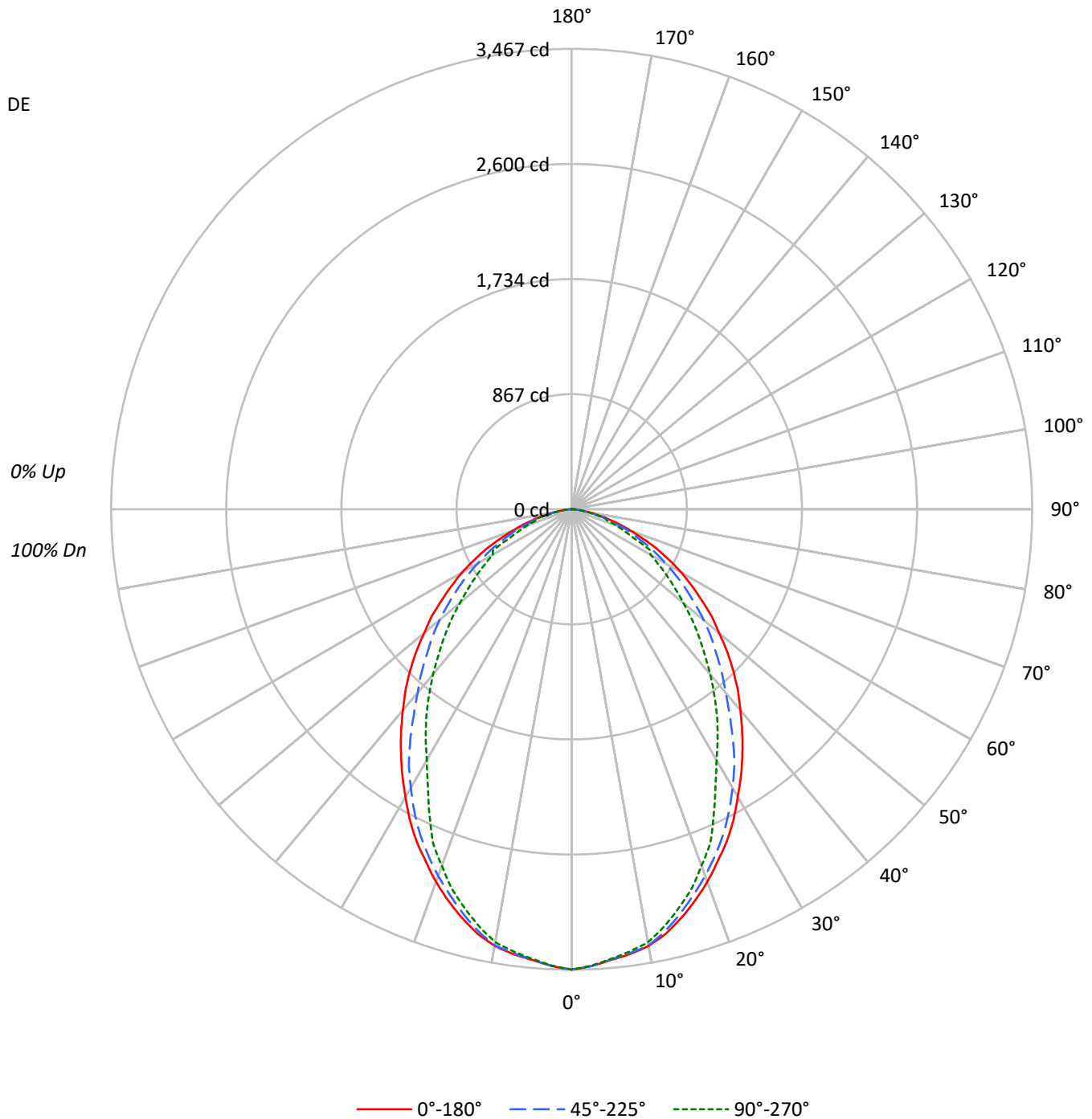
Lumens per Lamp: N/A  
Luminaire Lumens: 6806.0 lumens  
Efficiency: N/A  
Efficacy: 102.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4665	4665	4665
5°	4601	4596	4591
10°	4561	4556	4523
15°	4438	4394	4332
20°	4275	4206	4092
25°	4100	4010	3760
30°	3886	3761	3387
35°	3680	3476	3134
40°	3470	3168	2851
45°	3272	2929	2578
50°	3029	2718	2299
55°	2802	2463	2059
60°	2567	2200	1844
65°	2259	1927	1633
70°	1860	1687	1388
75°	1480	1292	1354
80°	994	931	869
85°	619	743	866

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3272 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	322.7	4.7
10°-20°	885.7	13.0
20°-30°	1226.2	18.0
30°-40°	1307.4	19.2
40°-50°	1192.8	17.5
50°-60°	934.4	13.7
60°-70°	609.0	8.9
70°-80°	269.8	4.0
80°-90°	57.9	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°	2434.6	35.8
0°-40°	3742.0	55.0
0°-60°	5869.2	86.2
0°-90°	6806.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6806.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3467	3467	3467	3467	3467	
5°	3407	3403	3403	3399	3399	323
15°	3186	3186	3154	3122	3110	896
25°	2762	2746	2701	2605	2533	1268
35°	2240	2224	2116	1956	1908	1401
45°	1719	1683	1539	1411	1355	1324
55°	1194	1158	1050	926	878	1071
65°	709	669	605	617	513	699
75°	285	264	248	236	260	305
85°	40	44	48	52	56	56
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3466.9	3466.9	3466.9	3466.9	3466.9
2.5°	3442.8	3442.8	3442.8	3438.8	3438.8
5°	3406.8	3402.8	3402.8	3398.8	3398.8
7.5°	3378.7	3374.7	3370.7	3366.7	3358.7
10°	3338.6	3338.6	3334.6	3314.6	3310.6
12.5°	3274.5	3270.5	3254.5	3226.4	3218.4
15°	3186.3	3186.3	3154.3	3122.2	3110.2
17.5°	3090.1	3086.1	3046.0	3014.0	2998.0
20°	2985.9	2977.9	2937.8	2885.7	2857.7
22.5°	2869.7	2869.7	2821.6	2753.5	2725.4
25°	2761.5	2745.5	2701.4	2605.2	2533.0
27.5°	2637.2	2613.2	2565.1	2428.8	2344.7
30°	2501.0	2488.9	2420.8	2244.5	2180.3
32.5°	2372.7	2352.7	2280.5	2096.2	2044.1
35°	2240.4	2224.4	2116.2	1955.9	1907.8
37.5°	2108.2	2088.1	1951.9	1823.6	1763.5
40°	1975.9	1951.9	1803.6	1687.4	1623.2
42.5°	1851.7	1819.6	1675.3	1551.1	1478.9
45°	1719.4	1683.3	1539.1	1410.8	1354.7
47.5°	1587.2	1555.1	1422.8	1290.6	1226.4
50°	1446.9	1418.8	1298.6	1166.3	1098.2
52.5°	1330.6	1286.6	1170.3	1038.1	982.0
55°	1194.4	1158.3	1050.1	925.8	877.7
57.5°	1070.1	1034.1	933.9	817.6	777.5
60°	953.9	901.8	817.6	717.4	685.4
62.5°	825.6	785.6	713.4	629.2	669.3
65°	709.4	669.3	605.2	617.2	513.0
67.5°	581.2	561.1	505.0	448.9	432.9
70°	472.9	448.9	428.9	368.7	352.7
72.5°	376.7	352.7	324.6	292.6	280.6
75°	284.6	264.5	248.5	236.5	260.5
77.5°	196.4	188.4	176.4	164.3	160.3
80°	128.3	124.2	120.2	116.2	112.2
82.5°	76.2	76.2	76.2	76.2	76.2
85°	40.1	44.1	48.1	52.1	56.1
87.5°	24.0	24.0	28.1	32.1	36.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)