

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: P590244

Luminaire Tested: FSR-24-2-LD4-2LO-35-UNV-81-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590244  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-2LO-35-UNV-81-97-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

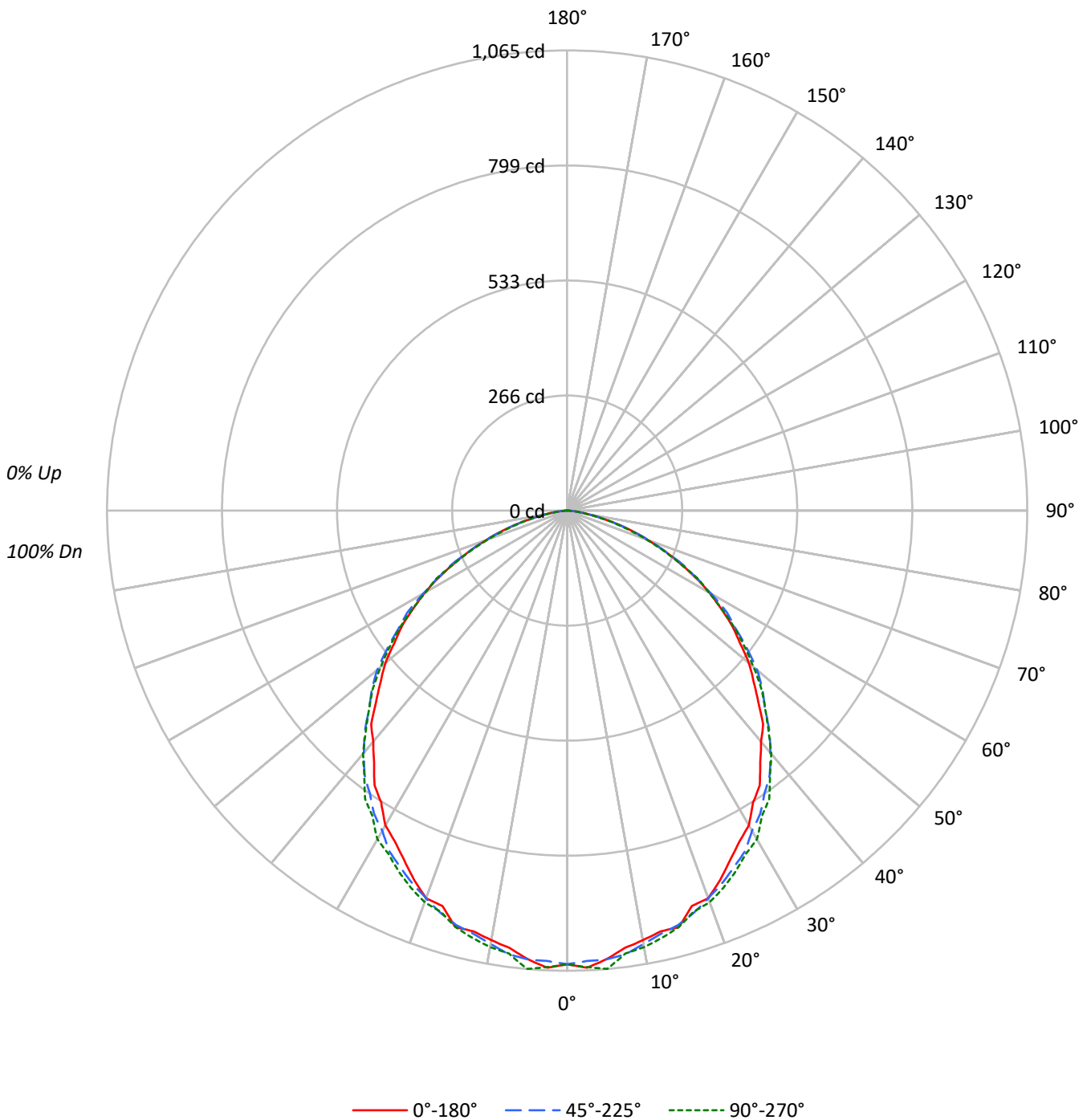
Lumens per Lamp: N/A  
Luminaire Lumens: 2646.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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																		
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																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2825	2825	2825
5°	2816	2817	2876
10°	2759	2783	2802
15°	2781	2766	2781
20°	2734	2734	2763
25°	2650	2708	2737
30°	2613	2659	2730
35°	2552	2619	2677
40°	2452	2570	2582
45°	2378	2463	2466
50°	2300	2404	2358
55°	2191	2234	2218
60°	2049	2070	2033
65°	1827	1874	1814
70°	1568	1573	1530
75°	1241	1239	1190
80°	832	809	778
85°	451	448	420

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2526 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.8	3.7
10°-20°	279.9	10.6
20°-30°	419.3	15.8
30°-40°	497.0	18.8
40°-50°	497.9	18.8
50°-60°	422.6	16.0
60°-70°	284.9	10.8
70°-80°	125.2	4.7
80°-90°	20.3	0.8
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°	798.0	30.2
0°-40°	1295.0	48.9
0°-60°	2215.5	83.7
0°-90°	2646.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2646.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1050	1050	1050	1050	1050	
5°	1042	1040	1043	1040	1065	98
15°	998	987	993	998	998	278
25°	892	897	912	924	922	413
35°	777	779	797	816	815	482
45°	625	637	647	664	648	483
55°	467	464	476	473	473	416
65°	287	283	294	283	285	285
75°	119	117	119	111	114	128
85°	15	14	14	14	14	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1049.9	1049.9	1049.9	1049.9	1049.9
2.5°	1058.9	1051.0	1043.5	1052.2	1057.5
5°	1042.4	1040.0	1042.8	1039.7	1064.8
7.5°	1021.0	1030.3	1035.8	1032.4	1033.9
10°	1009.6	1006.4	1018.4	1026.8	1025.6
12.5°	997.4	1002.3	1003.0	1012.0	1012.9
15°	998.1	986.6	992.7	997.8	998.2
17.5°	959.3	971.8	976.0	987.8	973.1
20°	954.6	945.5	954.6	966.6	964.7
22.5°	925.4	915.3	934.8	945.5	944.8
25°	892.4	897.2	911.9	923.8	921.9
27.5°	863.3	869.0	889.9	906.3	895.7
30°	841.0	838.1	855.8	870.4	878.5
32.5°	801.0	811.3	831.9	846.4	838.7
35°	776.7	779.0	797.1	815.5	815.0
37.5°	734.3	745.0	770.4	775.5	770.8
40°	698.1	708.8	731.7	737.3	735.0
42.5°	671.4	673.3	693.0	699.3	689.2
45°	624.9	636.6	647.1	663.8	648.1
47.5°	585.3	590.7	613.5	618.0	609.7
50°	549.4	551.3	574.2	568.6	563.2
52.5°	504.3	512.3	525.1	524.1	517.7
55°	467.1	464.0	476.2	472.9	472.8
57.5°	422.5	427.9	438.0	432.8	424.6
60°	380.8	380.9	384.6	378.7	377.7
62.5°	334.3	335.9	336.7	329.5	341.2
65°	287.0	283.2	294.3	283.0	284.9
67.5°	243.5	245.4	244.3	237.2	239.9
70°	199.3	201.7	199.9	191.9	194.4
72.5°	158.9	155.9	157.8	147.8	152.4
75°	119.4	117.0	119.2	110.7	114.5
77.5°	81.3	83.2	81.9	77.4	80.0
80°	53.7	52.2	52.2	49.6	50.2
82.5°	31.3	29.8	29.4	28.6	29.8
85°	14.6	14.2	14.5	14.1	13.6
87.5°	5.3	5.4	5.4	5.2	4.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)