

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: P562936

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562936  
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-40-UNV-80-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

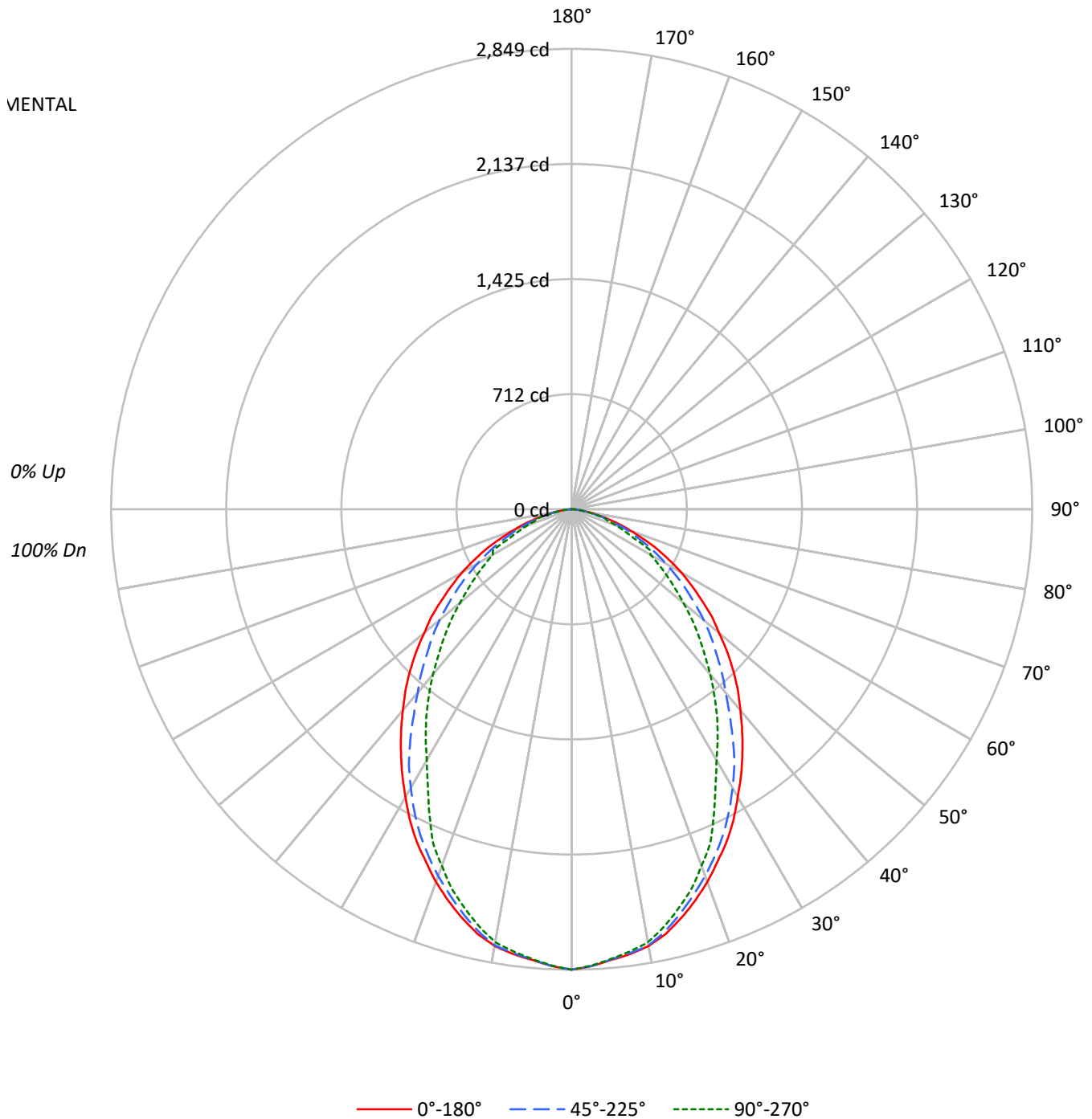
Lumens per Lamp: N/A  
Luminaire Lumens: 5593.0 lumens  
Efficiency: N/A  
Efficacy: 84.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3833	3833	3833
5°	3781	3777	3772
10°	3748	3744	3717
15°	3647	3611	3560
20°	3513	3457	3363
25°	3369	3296	3090
30°	3193	3091	2784
35°	3024	2856	2575
40°	2852	2603	2343
45°	2689	2407	2118
50°	2489	2234	1889
55°	2302	2024	1692
60°	2109	1808	1516
65°	1856	1583	1342
70°	1529	1386	1140
75°	1215	1062	1113
80°	817	766	714
85°	508	610	712

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2689 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	265.2	4.7
10°-20°	727.8	13.0
20°-30°	1007.6	18.0
30°-40°	1074.4	19.2
40°-50°	980.2	17.5
50°-60°	767.9	13.7
60°-70°	500.5	8.9
70°-80°	221.7	4.0
80°-90°	47.6	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°	2000.7	35.8
0°-40°	3075.1	55.0
0°-60°	4823.2	86.2
0°-90°	5593.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5593.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2849	2849	2849	2849	2849	
5°	2800	2796	2796	2793	2793	266
15°	2618	2618	2592	2566	2556	736
25°	2269	2256	2220	2141	2082	1042
35°	1841	1828	1739	1607	1568	1151
45°	1413	1383	1265	1159	1113	1088
55°	982	952	863	761	721	880
65°	583	550	497	507	422	575
75°	234	217	204	194	214	251
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2849.0	2849.0	2849.0	2849.0	2849.0
2.5°	2829.2	2829.2	2829.2	2825.9	2825.9
5°	2799.6	2796.3	2796.3	2793.0	2793.0
7.5°	2776.5	2773.2	2770.0	2766.7	2760.1
10°	2743.6	2743.6	2740.3	2723.8	2720.5
12.5°	2690.9	2687.6	2674.4	2651.4	2644.8
15°	2618.4	2618.4	2592.1	2565.7	2555.9
17.5°	2539.4	2536.1	2503.2	2476.8	2463.6
20°	2453.8	2447.2	2414.2	2371.4	2348.4
22.5°	2358.2	2358.2	2318.7	2262.7	2239.7
25°	2269.3	2256.1	2219.9	2140.9	2081.6
27.5°	2167.2	2147.5	2107.9	1995.9	1926.8
30°	2055.2	2045.4	1989.4	1844.4	1791.7
32.5°	1949.8	1933.4	1874.1	1722.6	1679.8
35°	1841.1	1828.0	1739.0	1607.3	1567.8
37.5°	1732.5	1716.0	1604.0	1498.6	1449.2
40°	1623.8	1604.0	1482.1	1386.6	1333.9
42.5°	1521.7	1495.3	1376.7	1274.6	1215.4
45°	1413.0	1383.3	1264.8	1159.4	1113.3
47.5°	1304.3	1277.9	1169.2	1060.6	1007.9
50°	1189.0	1165.9	1067.1	958.4	902.5
52.5°	1093.5	1057.3	961.7	853.1	806.9
55°	981.5	951.9	862.9	760.8	721.3
57.5°	879.4	849.8	767.4	671.9	639.0
60°	783.9	741.1	671.9	589.6	563.2
62.5°	678.5	645.6	586.3	517.1	550.0
65°	583.0	550.0	497.3	507.2	421.6
67.5°	477.6	461.1	415.0	368.9	355.7
70°	388.6	368.9	352.4	303.0	289.8
72.5°	309.6	289.8	266.8	240.4	230.6
75°	233.8	217.4	204.2	194.3	214.1
77.5°	161.4	154.8	144.9	135.0	131.7
80°	105.4	102.1	98.8	95.5	92.2
82.5°	62.6	62.6	62.6	62.6	62.6
85°	32.9	36.2	39.5	42.8	46.1
87.5°	19.8	19.8	23.1	26.3	29.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)