

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: P590912

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-81-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590912  
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-LD4-4STD-35-UNV-81-87-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

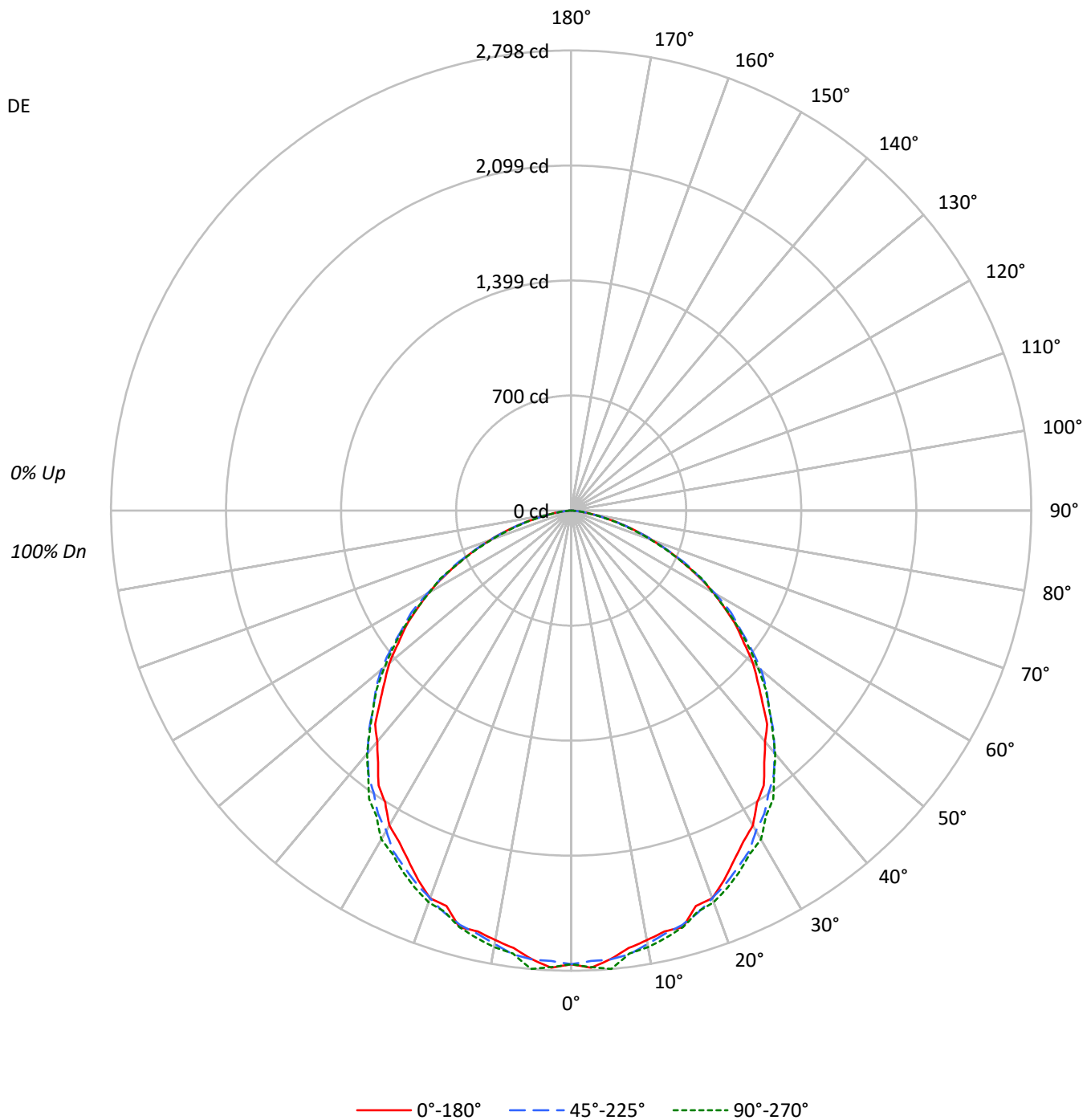
Lumens per Lamp: N/A  
Luminaire Lumens: 6952.0 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	7423	7423	7423
5°	7398	7401	7557
10°	7248	7312	7363
15°	7305	7266	7307
20°	7182	7182	7259
25°	6961	7114	7192
30°	6866	6986	7172
35°	6704	6880	7034
40°	6443	6753	6783
45°	6248	6471	6480
50°	6043	6316	6195
55°	5758	5870	5828
60°	5384	5438	5340
65°	4801	4923	4767
70°	4119	4133	4018
75°	3263	3255	3129
80°	2185	2125	2042
85°	1189	1176	1099

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6637 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	259.5	3.7
10°-20°	735.4	10.6
20°-30°	1101.7	15.8
30°-40°	1305.8	18.8
40°-50°	1308.2	18.8
50°-60°	1110.4	16.0
60°-70°	748.7	10.8
70°-80°	329.0	4.7
80°-90°	53.4	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°	2096.6	30.2
0°-40°	3402.3	48.9
0°-60°	5820.9	83.7
0°-90°	6952.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6952.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2758	2758	2758	2758	2758	
5°	2739	2732	2740	2732	2798	258
15°	2622	2592	2608	2622	2623	731
25°	2344	2357	2396	2427	2422	1084
35°	2041	2047	2094	2143	2141	1267
45°	1642	1672	1700	1744	1703	1270
55°	1227	1219	1251	1243	1242	1092
65°	754	744	773	744	749	750
75°	314	307	313	291	301	336
85°	38	37	38	37	36	56
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2758.4	2758.4	2758.4	2758.4	2758.4
2.5°	2782.2	2761.2	2741.6	2764.4	2778.3
5°	2738.8	2732.4	2739.9	2731.7	2797.6
7.5°	2682.5	2707.1	2721.3	2712.4	2716.4
10°	2652.6	2644.1	2675.8	2697.8	2694.6
12.5°	2620.5	2633.4	2635.2	2659.0	2661.1
15°	2622.3	2592.1	2608.1	2621.6	2622.7
17.5°	2520.5	2553.2	2564.3	2595.3	2556.8
20°	2508.0	2484.1	2508.0	2539.7	2534.7
22.5°	2431.4	2404.7	2456.0	2484.1	2482.4
25°	2344.5	2357.4	2395.8	2427.2	2422.2
27.5°	2268.3	2283.3	2338.1	2381.2	2353.4
30°	2209.6	2202.1	2248.4	2286.8	2308.2
32.5°	2104.5	2131.6	2185.7	2223.8	2203.5
35°	2040.7	2046.8	2094.2	2142.6	2141.2
37.5°	1929.3	1957.4	2024.0	2037.5	2025.1
40°	1834.2	1862.3	1922.5	1937.1	1931.0
42.5°	1764.0	1769.0	1820.6	1837.4	1810.7
45°	1641.8	1672.5	1700.3	1744.1	1702.8
47.5°	1537.9	1552.1	1611.9	1623.7	1602.0
50°	1443.5	1448.5	1508.6	1494.0	1479.8
52.5°	1324.9	1345.9	1379.7	1376.9	1360.1
55°	1227.3	1219.1	1251.2	1242.6	1242.2
57.5°	1110.1	1124.4	1150.7	1137.2	1115.5
60°	1000.4	1000.8	1010.4	995.1	992.2
62.5°	878.3	882.5	884.7	865.8	896.4
65°	754.0	744.0	773.2	743.6	748.6
67.5°	639.6	644.6	641.8	623.3	630.4
70°	523.5	530.0	525.3	504.3	510.7
72.5°	417.4	409.6	414.6	388.2	400.3
75°	313.8	307.4	313.1	291.0	300.9
77.5°	213.7	218.7	215.1	203.4	210.1
80°	141.0	137.1	137.1	130.4	131.8
82.5°	82.3	78.4	77.3	75.1	78.4
85°	38.5	37.4	38.1	37.0	35.6
87.5°	13.9	14.2	14.2	13.5	12.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)