

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: P562013

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-82-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562013  
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-LD4-1HI-35-UNV-82-96-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

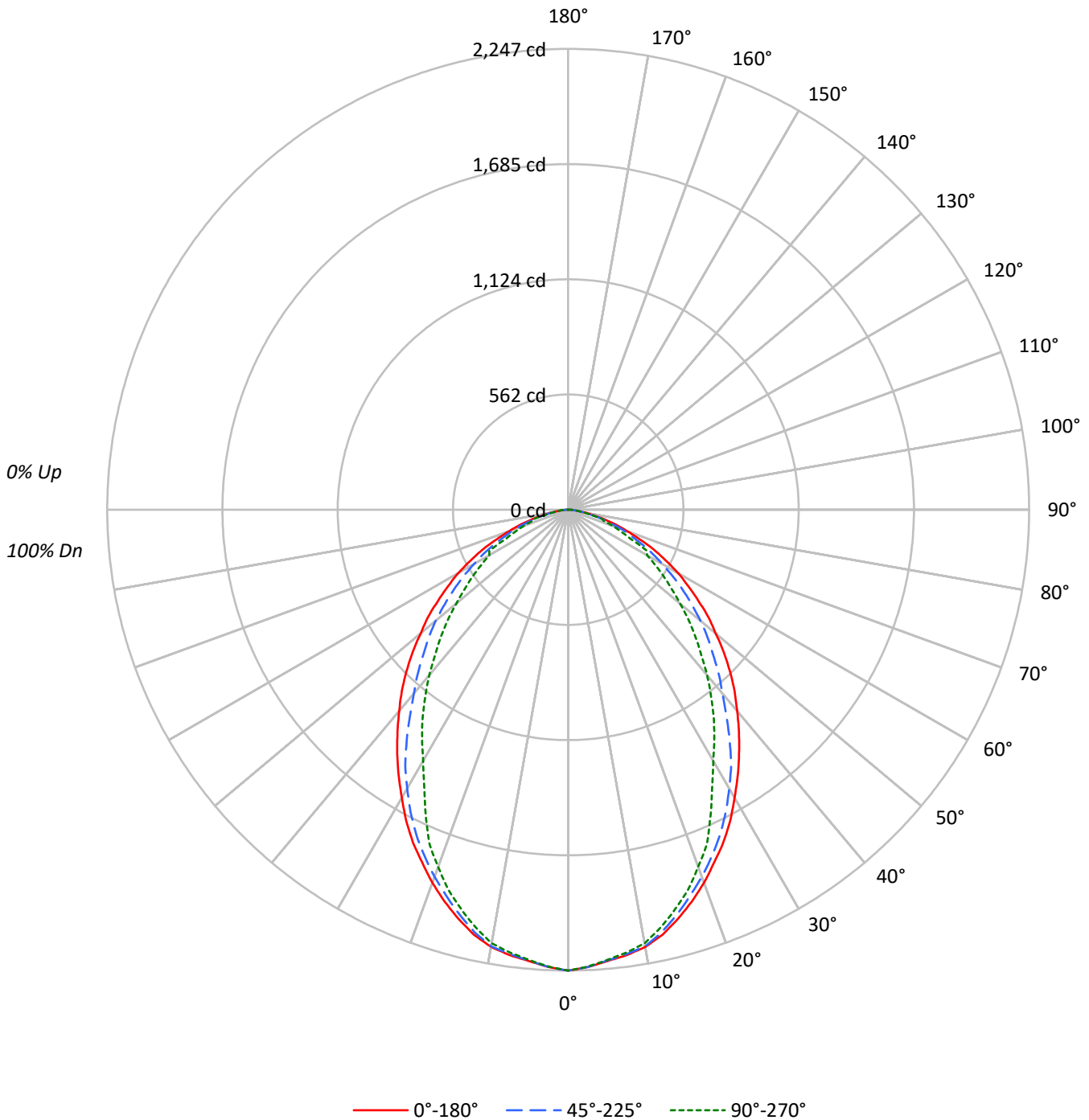
Lumens per Lamp: N/A  
Luminaire Lumens: 4412.0 lumens  
Efficiency: N/A  
Efficacy: 102.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3024	3024	3024
5°	2983	2979	2976
10°	2957	2953	2932
15°	2877	2848	2808
20°	2771	2727	2652
25°	2658	2600	2438
30°	2519	2438	2196
35°	2386	2253	2031
40°	2250	2054	1848
45°	2121	1898	1671
50°	1963	1762	1490
55°	1816	1597	1335
60°	1664	1426	1196
65°	1464	1249	1059
70°	1206	1094	899
75°	959	837	878
80°	644	604	563
85°	401	482	562

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2121 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	209.2	4.7
10°-20°	574.1	13.0
20°-30°	794.9	18.0
30°-40°	847.6	19.2
40°-50°	773.2	17.5
50°-60°	605.8	13.7
60°-70°	394.8	8.9
70°-80°	174.9	4.0
80°-90°	37.6	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°	1578.2	35.8
0°-40°	2425.8	55.0
0°-60°	3804.7	86.2
0°-90°	4412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4412.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2247	2247	2247	2247	2247	
5°	2208	2206	2206	2203	2203	210
15°	2066	2066	2045	2024	2016	581
25°	1790	1780	1751	1689	1642	822
35°	1452	1442	1372	1268	1237	908
45°	1115	1091	998	915	878	859
55°	774	751	681	600	569	694
65°	460	434	392	400	333	453
75°	184	172	161	153	169	198
85°	26	29	31	34	36	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2247.4	2247.4	2247.4	2247.4	2247.4
2.5°	2231.8	2231.8	2231.8	2229.2	2229.2
5°	2208.4	2205.8	2205.8	2203.2	2203.2
7.5°	2190.3	2187.7	2185.1	2182.5	2177.3
10°	2164.3	2164.3	2161.7	2148.7	2146.1
12.5°	2122.7	2120.1	2109.7	2091.5	2086.3
15°	2065.5	2065.5	2044.8	2024.0	2016.2
17.5°	2003.2	2000.6	1974.6	1953.8	1943.4
20°	1935.6	1930.4	1904.5	1870.7	1852.5
22.5°	1860.3	1860.3	1829.1	1784.9	1766.8
25°	1790.1	1779.7	1751.2	1688.8	1642.0
27.5°	1709.6	1694.0	1662.8	1574.5	1519.9
30°	1621.3	1613.5	1569.3	1455.0	1413.4
32.5°	1538.1	1525.1	1478.4	1358.8	1325.1
35°	1452.4	1442.0	1371.8	1267.9	1236.7
37.5°	1366.6	1353.6	1265.3	1182.2	1143.2
40°	1280.9	1265.3	1169.2	1093.8	1052.3
42.5°	1200.4	1179.6	1086.0	1005.5	958.7
45°	1114.6	1091.2	997.7	914.6	878.2
47.5°	1028.9	1008.1	922.3	836.6	795.0
50°	937.9	919.8	841.8	756.1	711.9
52.5°	862.6	834.0	758.7	672.9	636.6
55°	774.3	750.9	680.7	600.2	569.0
57.5°	693.7	670.3	605.4	530.0	504.0
60°	618.4	584.6	530.0	465.1	444.3
62.5°	535.2	509.2	462.5	407.9	433.9
65°	459.9	433.9	392.3	400.1	332.6
67.5°	376.7	363.7	327.4	291.0	280.6
70°	306.6	291.0	278.0	239.0	228.6
72.5°	244.2	228.6	210.5	189.7	181.9
75°	184.5	171.5	161.1	153.3	168.9
77.5°	127.3	122.1	114.3	106.5	103.9
80°	83.1	80.5	77.9	75.3	72.7
82.5°	49.4	49.4	49.4	49.4	49.4
85°	26.0	28.6	31.2	33.8	36.4
87.5°	15.6	15.6	18.2	20.8	23.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)