

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: P562972

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562972  
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-82-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

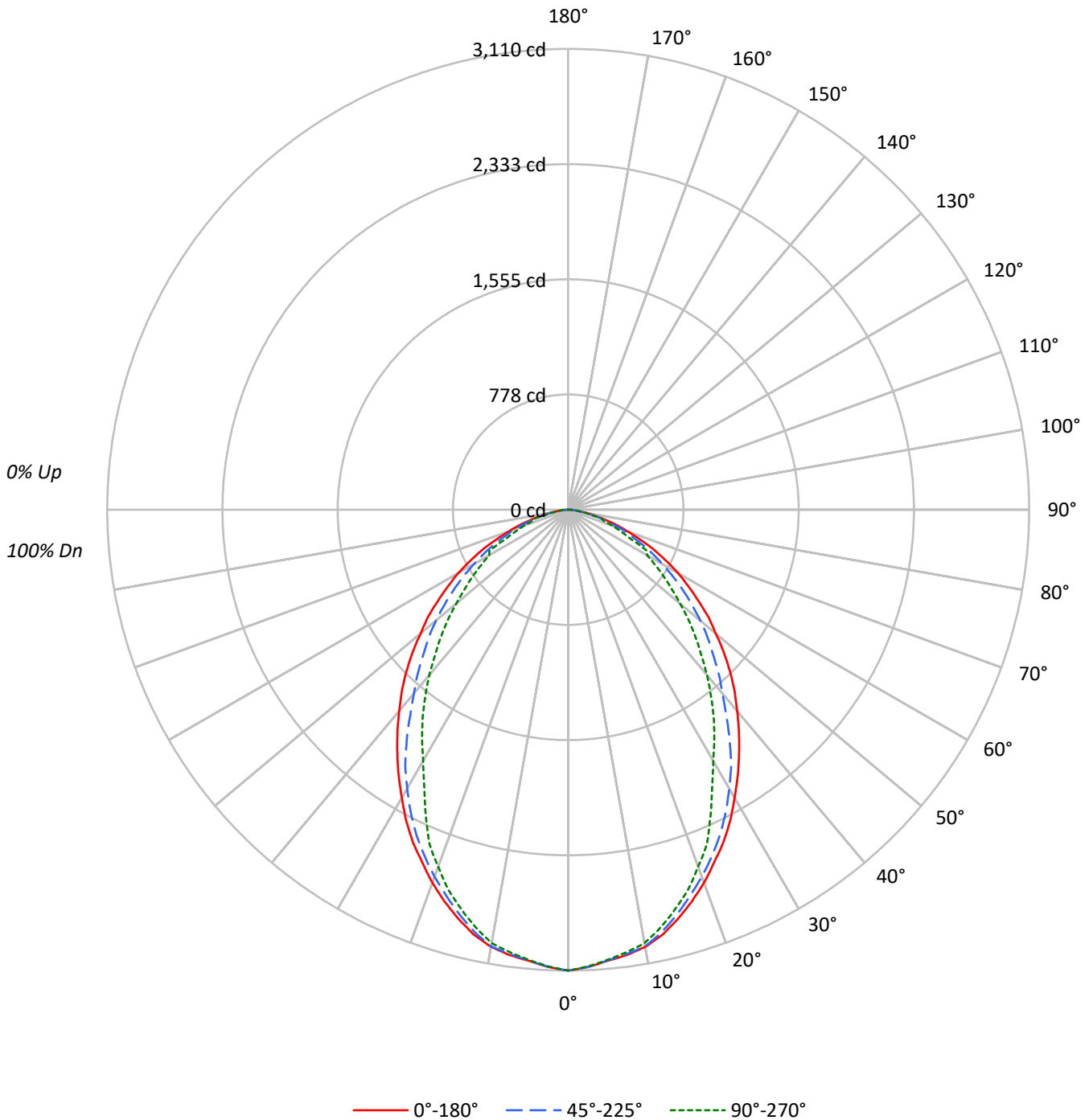
Lumens per Lamp: N/A  
Luminaire Lumens: 6106.0 lumens  
Efficiency: N/A  
Efficacy: 91.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4185	4185	4185
5°	4128	4123	4118
10°	4092	4087	4058
15°	3982	3942	3887
20°	3836	3774	3671
25°	3678	3598	3374
30°	3486	3374	3039
35°	3302	3119	2811
40°	3114	2842	2558
45°	2935	2627	2313
50°	2717	2439	2062
55°	2514	2210	1847
60°	2303	1974	1655
65°	2026	1729	1465
70°	1669	1513	1245
75°	1327	1159	1215
80°	892	836	780
85°	556	665	777

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2935 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	289.5	4.7
10°-20°	794.6	13.0
20°-30°	1100.0	18.0
30°-40°	1173.0	19.2
40°-50°	1070.1	17.5
50°-60°	838.3	13.7
60°-70°	546.4	8.9
70°-80°	242.1	4.0
80°-90°	52.0	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°	2184.2	35.8
0°-40°	3357.1	55.0
0°-60°	5265.6	86.2
0°-90°	6106.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6106.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3110	3110	3110	3110	3110	
5°	3056	3053	3053	3049	3049	290
15°	2859	2859	2830	2801	2790	804
25°	2478	2463	2424	2337	2272	1137
35°	2010	1996	1899	1755	1712	1257
45°	1543	1510	1381	1266	1215	1188
55°	1072	1039	942	831	788	961
65°	636	600	543	554	460	627
75°	255	237	223	212	234	274
85°	36	40	43	47	50	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3110.3	3110.3	3110.3	3110.3	3110.3
2.5°	3088.7	3088.7	3088.7	3085.1	3085.1
5°	3056.4	3052.8	3052.8	3049.2	3049.2
7.5°	3031.2	3027.6	3024.0	3020.4	3013.2
10°	2995.3	2995.3	2991.7	2973.7	2970.1
12.5°	2937.7	2934.1	2919.7	2894.6	2887.4
15°	2858.6	2858.6	2829.8	2801.1	2790.3
17.5°	2772.3	2768.7	2732.8	2704.0	2689.6
20°	2678.8	2671.6	2635.7	2588.9	2563.8
22.5°	2574.5	2574.5	2531.4	2470.3	2445.1
25°	2477.5	2463.1	2423.5	2337.2	2272.5
27.5°	2366.0	2344.4	2301.3	2179.0	2103.5
30°	2243.7	2233.0	2171.8	2013.6	1956.1
32.5°	2128.7	2110.7	2046.0	1880.6	1833.8
35°	2010.0	1995.6	1898.6	1754.7	1711.6
37.5°	1891.4	1873.4	1751.1	1636.1	1582.1
40°	1772.7	1751.1	1618.1	1513.8	1456.3
42.5°	1661.2	1632.5	1503.0	1391.6	1326.8
45°	1542.6	1510.2	1380.8	1265.7	1215.4
47.5°	1423.9	1395.1	1276.5	1157.8	1100.3
50°	1298.1	1272.9	1165.0	1046.4	985.2
52.5°	1193.8	1154.2	1050.0	931.3	881.0
55°	1071.5	1039.2	942.1	830.6	787.5
57.5°	960.1	927.7	837.8	733.5	697.6
60°	855.8	809.0	733.5	643.6	614.9
62.5°	740.7	704.8	640.0	564.5	600.5
65°	636.4	600.5	543.0	553.7	460.3
67.5°	521.4	503.4	453.1	402.7	388.3
70°	424.3	402.7	384.7	330.8	316.4
72.5°	338.0	316.4	291.3	262.5	251.7
75°	255.3	237.3	222.9	212.1	233.7
77.5°	176.2	169.0	158.2	147.4	143.8
80°	115.1	111.5	107.9	104.3	100.7
82.5°	68.3	68.3	68.3	68.3	68.3
85°	36.0	39.6	43.1	46.7	50.3
87.5°	21.6	21.6	25.2	28.8	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)