

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: P561884

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561884  
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-12-4-LD4-2STD-50-UNV-82-96-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

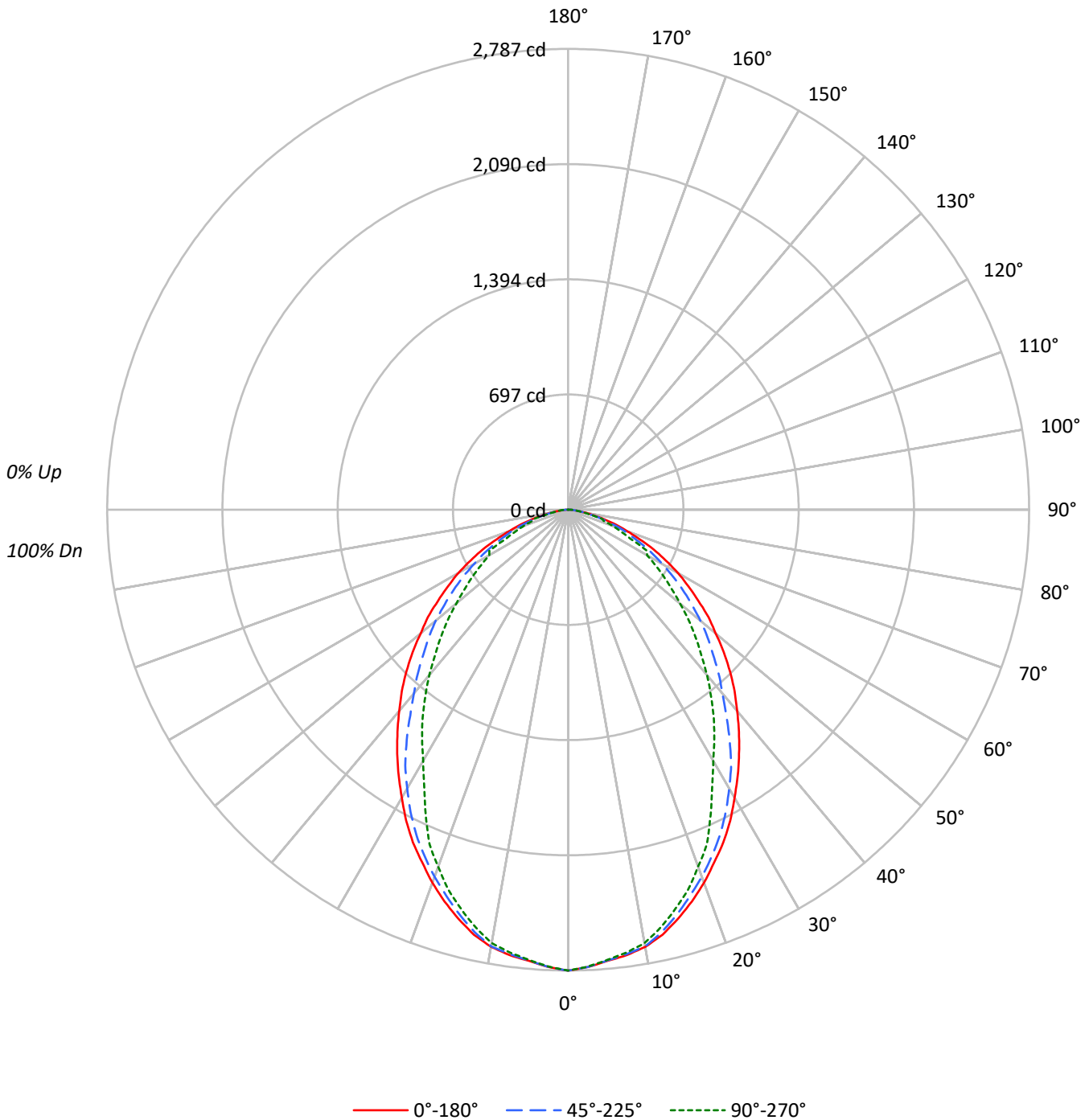
Lumens per Lamp: N/A  
Luminaire Lumens: 5472.0 lumens  
Efficiency: N/A  
Efficacy: 82.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

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

	0°	45°	90°
0°	7501	7501	7501
5°	7399	7390	7381
10°	7335	7326	7273
15°	7137	7065	6966
20°	6875	6764	6580
25°	6592	6449	6047
30°	6248	6048	5447
35°	5917	5589	5039
40°	5580	5094	4585
45°	5261	4709	4145
50°	4870	4371	3696
55°	4505	3961	3311
60°	4127	3538	2965
65°	3632	3098	2627
70°	2991	2713	2231
75°	2379	2077	2178
80°	1598	1499	1398
85°	994	1195	1392

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5261 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	259.5	4.7
10°-20°	712.1	13.0
20°-30°	985.8	18.0
30°-40°	1051.2	19.2
40°-50°	959.0	17.5
50°-60°	751.3	13.7
60°-70°	489.6	8.9
70°-80°	216.9	4.0
80°-90°	46.6	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°	1957.4	35.8
0°-40°	3008.6	55.0
0°-60°	4718.8	86.2
0°-90°	5472.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5472.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2787	2787	2787	2787	2787	
5°	2739	2736	2736	2733	2733	260
15°	2562	2562	2536	2510	2501	720
25°	2220	2207	2172	2095	2036	1019
35°	1801	1788	1701	1572	1534	1126
45°	1382	1353	1237	1134	1089	1065
55°	960	931	844	744	706	861
65°	570	538	487	496	412	562
75°	229	213	200	190	210	245
85°	32	35	39	42	45	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2787.4	2787.4	2787.4	2787.4	2787.4
2.5°	2768.0	2768.0	2768.0	2764.8	2764.8
5°	2739.0	2735.8	2735.8	2732.6	2732.6
7.5°	2716.5	2713.2	2710.0	2706.8	2700.4
10°	2684.2	2684.2	2681.0	2664.9	2661.7
12.5°	2632.7	2629.5	2616.6	2594.0	2587.6
15°	2561.8	2561.8	2536.0	2510.2	2500.6
17.5°	2484.5	2481.2	2449.0	2423.2	2410.3
20°	2400.7	2394.2	2362.0	2320.1	2297.6
22.5°	2307.2	2307.2	2268.6	2213.8	2191.2
25°	2220.2	2207.3	2171.9	2094.6	2036.5
27.5°	2120.3	2101.0	2062.3	1952.8	1885.1
30°	2010.8	2001.1	1946.3	1804.5	1753.0
32.5°	1907.7	1891.5	1833.5	1685.3	1643.4
35°	1801.3	1788.4	1701.4	1572.5	1533.9
37.5°	1695.0	1678.9	1569.3	1466.2	1417.8
40°	1588.6	1569.3	1450.1	1356.6	1305.1
42.5°	1488.7	1463.0	1347.0	1247.1	1189.1
45°	1382.4	1353.4	1237.4	1134.3	1089.2
47.5°	1276.1	1250.3	1143.9	1037.6	986.1
50°	1163.3	1140.7	1044.1	937.7	882.9
52.5°	1069.8	1034.4	940.9	834.6	789.5
55°	960.3	931.3	844.3	744.4	705.7
57.5°	860.4	831.4	750.8	657.4	625.1
60°	766.9	725.0	657.4	576.8	551.0
62.5°	663.8	631.6	573.6	505.9	538.1
65°	570.4	538.1	486.6	496.2	412.5
67.5°	467.2	451.1	406.0	360.9	348.0
70°	380.2	360.9	344.8	296.5	283.6
72.5°	302.9	283.6	261.0	235.2	225.6
75°	228.8	212.7	199.8	190.1	209.5
77.5°	157.9	151.5	141.8	132.1	128.9
80°	103.1	99.9	96.7	93.4	90.2
82.5°	61.2	61.2	61.2	61.2	61.2
85°	32.2	35.4	38.7	41.9	45.1
87.5°	19.3	19.3	22.6	25.8	29.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)