

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: P562767

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-81-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562767  
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-LD4-2LO-40-UNV-81-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

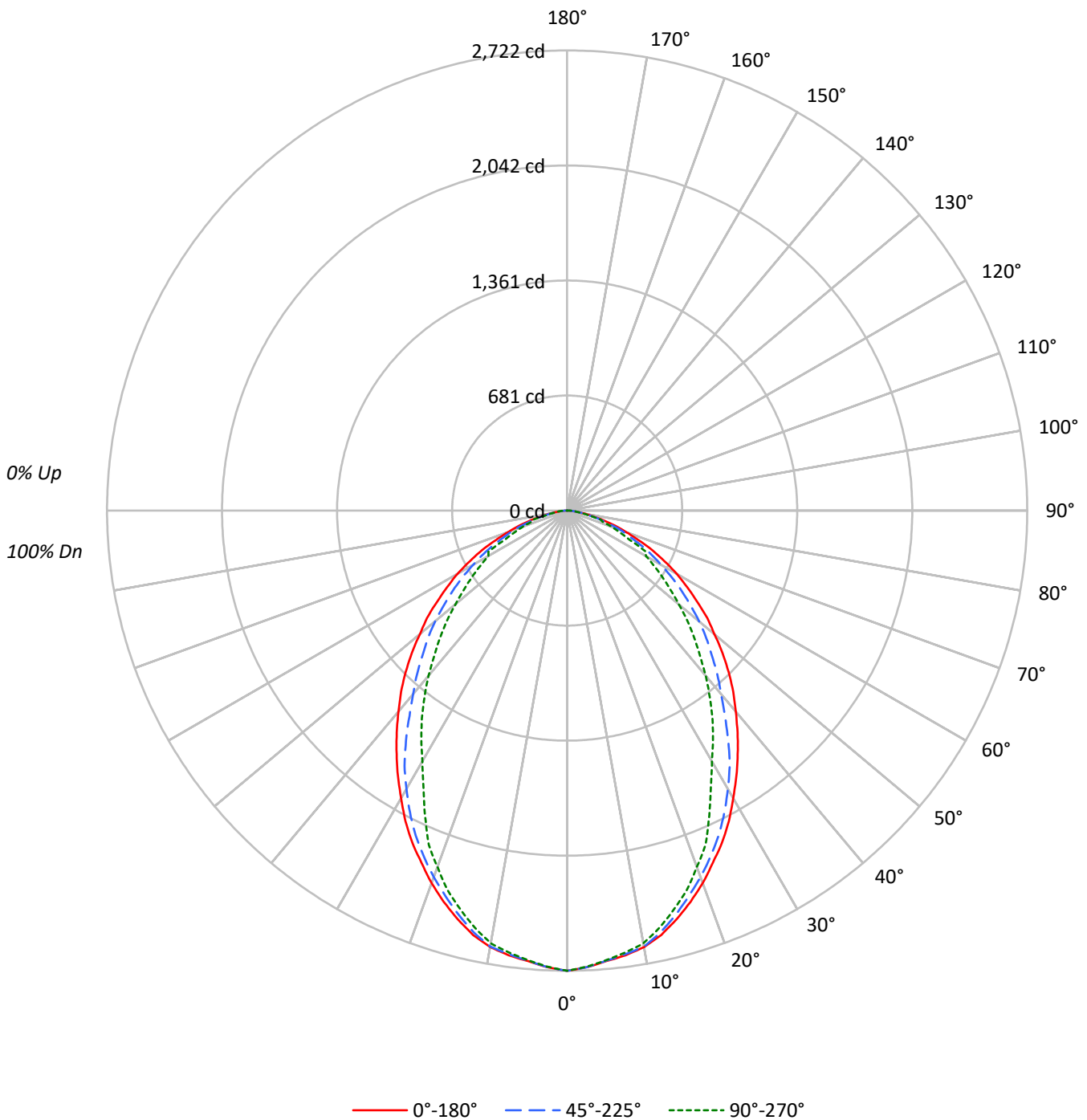
Lumens per Lamp: N/A  
Luminaire Lumens: 5344.0 lumens  
Efficiency: N/A  
Efficacy: 114.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3663	3663	3663
5°	3613	3609	3604
10°	3582	3577	3551
15°	3485	3450	3402
20°	3357	3303	3213
25°	3219	3149	2953
30°	3051	2953	2660
35°	2890	2729	2461
40°	2725	2487	2239
45°	2569	2300	2024
50°	2378	2134	1805
55°	2200	1934	1617
60°	2016	1728	1448
65°	1773	1513	1282
70°	1461	1325	1089
75°	1161	1014	1064
80°	780	731	683
85°	486	584	681

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2569 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	253.4	4.7
10°-20°	695.4	13.0
20°-30°	962.8	18.0
30°-40°	1026.6	19.2
40°-50°	936.5	17.5
50°-60°	733.7	13.7
60°-70°	478.2	8.9
70°-80°	211.9	4.0
80°-90°	45.5	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°	1911.6	35.8
0°-40°	2938.2	55.0
0°-60°	4608.5	86.2
0°-90°	5344.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5344.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2722	2722	2722	2722	2722	
5°	2675	2672	2672	2669	2669	254
15°	2502	2502	2477	2452	2442	703
25°	2168	2156	2121	2046	1989	995
35°	1759	1747	1662	1536	1498	1100
45°	1350	1322	1208	1108	1064	1040
55°	938	910	824	727	689	841
65°	557	526	475	485	403	549
75°	223	208	195	186	205	239
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2722.2	2722.2	2722.2	2722.2	2722.2
2.5°	2703.3	2703.3	2703.3	2700.1	2700.1
5°	2675.0	2671.8	2671.8	2668.7	2668.7
7.5°	2652.9	2649.8	2646.6	2643.5	2637.2
10°	2621.5	2621.5	2618.3	2602.6	2599.4
12.5°	2571.1	2568.0	2555.4	2533.3	2527.0
15°	2501.9	2501.9	2476.7	2451.5	2442.1
17.5°	2426.3	2423.2	2391.7	2366.6	2354.0
20°	2344.5	2338.2	2306.8	2265.8	2243.8
22.5°	2253.3	2253.3	2215.5	2162.0	2140.0
25°	2168.3	2155.7	2121.1	2045.6	1988.9
27.5°	2070.7	2051.8	2014.1	1907.1	1841.0
30°	1963.7	1954.3	1900.8	1762.3	1712.0
32.5°	1863.0	1847.3	1790.6	1645.9	1605.0
35°	1759.2	1746.6	1661.6	1535.7	1498.0
37.5°	1655.3	1639.6	1532.6	1431.9	1384.7
40°	1551.5	1532.6	1416.2	1324.9	1274.5
42.5°	1453.9	1428.7	1315.4	1217.9	1161.2
45°	1350.1	1321.7	1208.5	1107.7	1063.7
47.5°	1246.2	1221.0	1117.2	1013.3	963.0
50°	1136.1	1114.0	1019.6	915.8	862.3
52.5°	1044.8	1010.2	918.9	815.1	771.0
55°	937.8	909.5	824.5	727.0	689.2
57.5°	840.3	811.9	733.3	642.0	610.5
60°	749.0	708.1	642.0	563.3	538.1
62.5°	648.3	616.8	560.2	494.1	525.6
65°	557.0	525.6	475.2	484.6	402.8
67.5°	456.3	440.6	396.5	352.5	339.9
70°	371.3	352.5	336.7	289.5	276.9
72.5°	295.8	276.9	254.9	229.7	220.3
75°	223.4	207.7	195.1	185.7	204.6
77.5°	154.2	147.9	138.5	129.0	125.9
80°	100.7	97.6	94.4	91.3	88.1
82.5°	59.8	59.8	59.8	59.8	59.8
85°	31.5	34.6	37.8	40.9	44.1
87.5°	18.9	18.9	22.0	25.2	28.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)