

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: P562717

Luminaire Tested: FSR-24-4-LD4-2LO-35-UNV-82-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562717  
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-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**

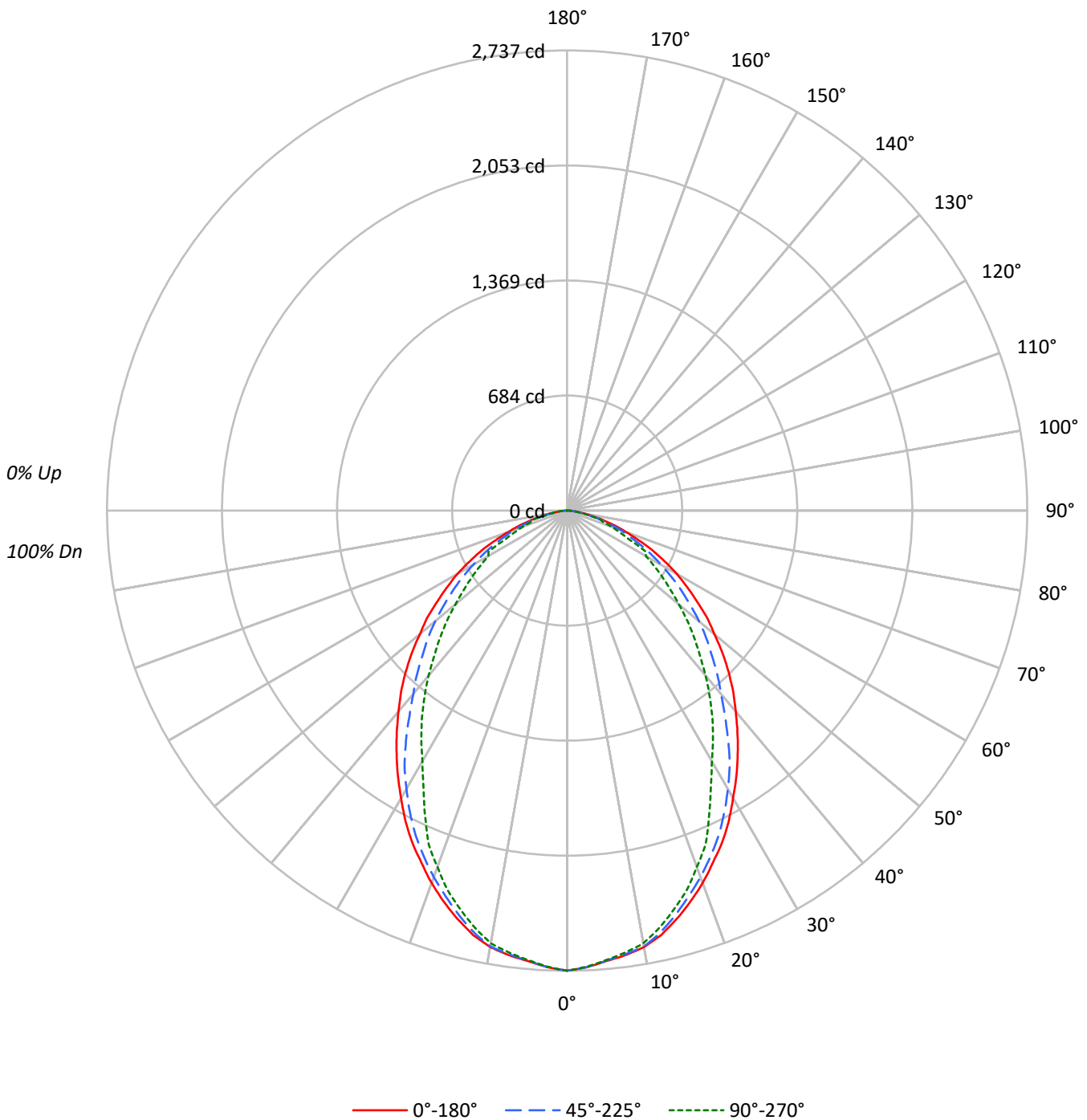
Lumens per Lamp: N/A  
Luminaire Lumens: 5373.0 lumens  
Efficiency: N/A  
Efficacy: 114.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3682	3682	3682
5°	3633	3628	3624
10°	3601	3597	3571
15°	3504	3469	3420
20°	3375	3321	3230
25°	3237	3166	2969
30°	3068	2969	2674
35°	2905	2744	2474
40°	2740	2501	2251
45°	2583	2312	2035
50°	2391	2146	1815
55°	2212	1945	1625
60°	2027	1737	1456
65°	1783	1521	1289
70°	1469	1332	1095
75°	1168	1020	1069
80°	785	735	687
85°	488	587	684

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2583 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	254.8	4.7
10°-20°	699.2	13.0
20°-30°	968.0	18.0
30°-40°	1032.2	19.2
40°-50°	941.6	17.5
50°-60°	737.7	13.7
60°-70°	480.8	8.9
70°-80°	213.0	4.0
80°-90°	45.7	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°	1922.0	35.8
0°-40°	2954.1	55.0
0°-60°	4633.5	86.2
0°-90°	5373.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5373.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2737	2737	2737	2737	2737	
5°	2690	2686	2686	2683	2683	255
15°	2515	2515	2490	2465	2455	707
25°	2180	2167	2133	2057	2000	1001
35°	1769	1756	1671	1544	1506	1106
45°	1357	1329	1215	1114	1070	1046
55°	943	914	829	731	693	846
65°	560	528	478	487	405	552
75°	225	209	196	187	206	241
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°	2736.9	2736.9	2736.9	2736.9	2736.9
2.5°	2717.9	2717.9	2717.9	2714.8	2714.8
5°	2689.5	2686.3	2686.3	2683.1	2683.1
7.5°	2667.3	2664.2	2661.0	2657.8	2651.5
10°	2635.7	2635.7	2632.5	2616.7	2613.5
12.5°	2585.1	2581.9	2569.2	2547.1	2540.8
15°	2515.4	2515.4	2490.1	2464.8	2455.3
17.5°	2439.5	2436.3	2404.7	2379.4	2366.7
20°	2357.2	2350.9	2319.3	2278.1	2256.0
22.5°	2265.5	2265.5	2227.5	2173.7	2151.6
25°	2180.1	2167.4	2132.6	2056.7	1999.7
27.5°	2082.0	2063.0	2025.0	1917.4	1851.0
30°	1974.4	1964.9	1911.1	1771.9	1721.3
32.5°	1873.1	1857.3	1800.4	1654.8	1613.7
35°	1768.7	1756.1	1670.6	1544.1	1506.1
37.5°	1664.3	1648.5	1540.9	1439.7	1392.2
40°	1559.9	1540.9	1423.8	1332.1	1281.5
42.5°	1461.8	1436.5	1322.6	1224.5	1167.5
45°	1357.4	1328.9	1215.0	1113.8	1069.5
47.5°	1253.0	1227.7	1123.3	1018.8	968.2
50°	1142.2	1120.1	1025.2	920.7	867.0
52.5°	1050.5	1015.7	923.9	819.5	775.2
55°	942.9	914.4	829.0	730.9	692.9
57.5°	844.8	816.3	737.2	645.5	613.8
60°	753.1	711.9	645.5	566.4	541.1
62.5°	651.8	620.2	563.2	496.8	528.4
65°	560.0	528.4	477.8	487.3	405.0
67.5°	458.8	443.0	398.7	354.4	341.7
70°	373.4	354.4	338.6	291.1	278.4
72.5°	297.4	278.4	256.3	231.0	221.5
75°	224.7	208.8	196.2	186.7	205.7
77.5°	155.0	148.7	139.2	129.7	126.6
80°	101.3	98.1	94.9	91.8	88.6
82.5°	60.1	60.1	60.1	60.1	60.1
85°	31.6	34.8	38.0	41.1	44.3
87.5°	19.0	19.0	22.1	25.3	28.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)