

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: P562797

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562797  
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-93-96-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

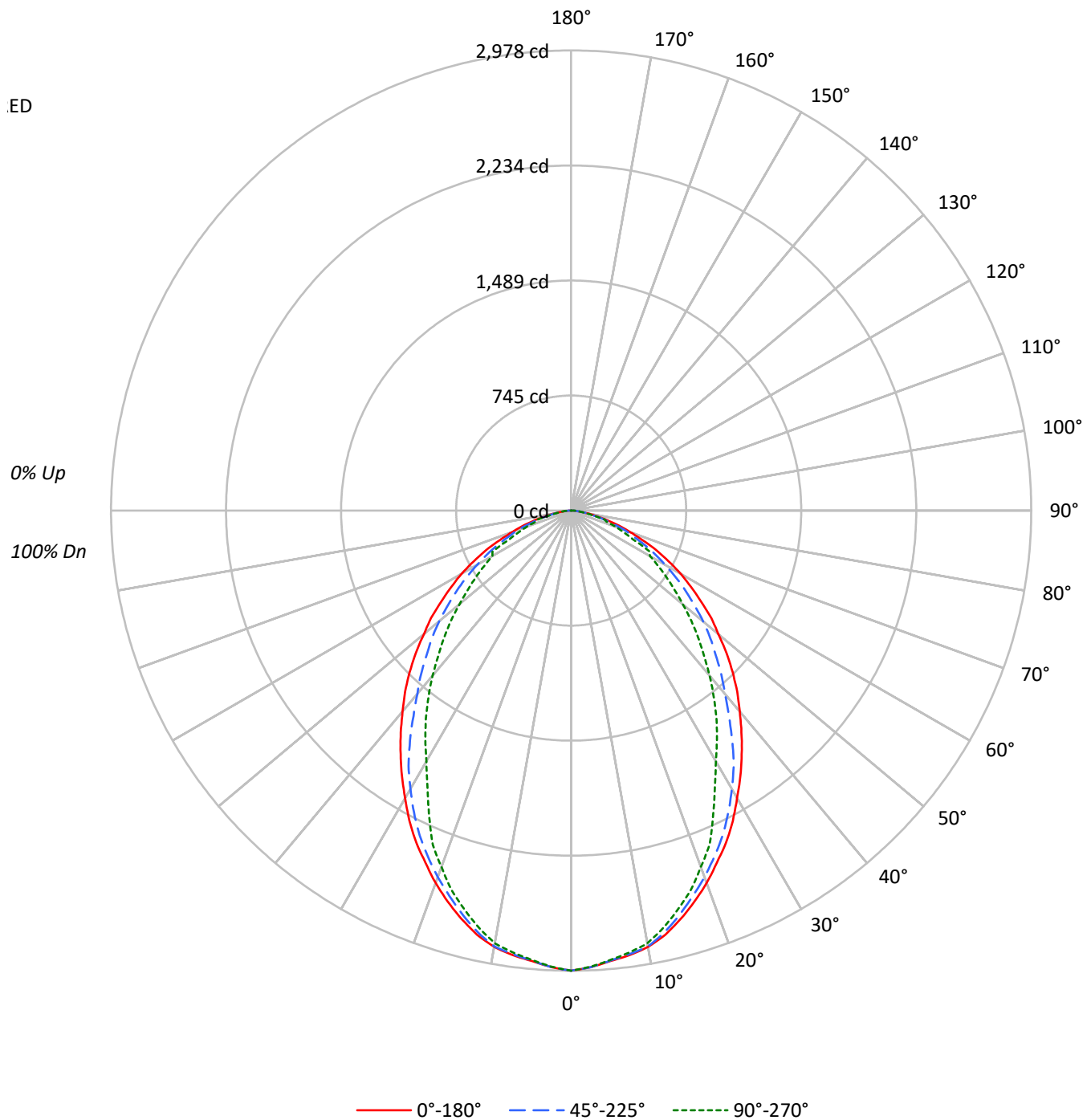
Lumens per Lamp: N/A  
Luminaire Lumens: 5846.0 lumens  
Efficiency: N/A  
Efficacy: 124.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4007	4007	4007
5°	3952	3948	3943
10°	3918	3913	3885
15°	3812	3774	3721
20°	3672	3613	3515
25°	3521	3445	3230
30°	3338	3230	2910
35°	3161	2986	2692
40°	2981	2721	2449
45°	2810	2516	2214
50°	2601	2335	1975
55°	2407	2116	1768
60°	2205	1890	1584
65°	1940	1655	1403
70°	1598	1449	1192
75°	1271	1109	1163
80°	854	800	747
85°	531	638	744

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2810 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	277.2	4.7
10°-20°	760.8	13.0
20°-30°	1053.2	18.0
30°-40°	1123.0	19.2
40°-50°	1024.5	17.5
50°-60°	802.6	13.7
60°-70°	523.1	8.9
70°-80°	231.8	4.0
80°-90°	49.8	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°	2091.2	35.8
0°-40°	3214.2	55.0
0°-60°	5041.3	86.2
0°-90°	5846.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5846.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2978	2978	2978	2978	2978	
5°	2926	2923	2923	2919	2919	278
15°	2737	2737	2709	2682	2672	769
25°	2372	2358	2320	2238	2176	1089
35°	1924	1911	1818	1680	1639	1203
45°	1477	1446	1322	1212	1164	1138
55°	1026	995	902	795	754	920
65°	609	575	520	530	441	600
75°	244	227	213	203	224	262
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2977.9	2977.9	2977.9	2977.9	2977.9
2.5°	2957.2	2957.2	2957.2	2953.8	2953.8
5°	2926.2	2922.8	2922.8	2919.3	2919.3
7.5°	2902.1	2898.7	2895.3	2891.8	2884.9
10°	2867.7	2867.7	2864.3	2847.1	2843.6
12.5°	2812.6	2809.2	2795.4	2771.3	2764.4
15°	2736.9	2736.9	2709.3	2681.8	2671.5
17.5°	2654.3	2650.8	2616.4	2588.9	2575.1
20°	2564.8	2557.9	2523.4	2478.7	2454.6
22.5°	2464.9	2464.9	2423.6	2365.1	2341.0
25°	2372.0	2358.2	2320.3	2237.7	2175.7
27.5°	2265.3	2244.6	2203.3	2086.2	2013.9
30°	2148.2	2137.9	2079.3	1927.9	1872.8
32.5°	2038.0	2020.8	1958.9	1800.5	1755.7
35°	1924.4	1910.7	1817.7	1680.0	1638.7
37.5°	1810.8	1793.6	1676.6	1566.4	1514.8
40°	1697.2	1676.6	1549.2	1449.3	1394.3
42.5°	1590.5	1563.0	1439.0	1332.3	1270.3
45°	1476.9	1445.9	1322.0	1211.8	1163.6
47.5°	1363.3	1335.7	1222.1	1108.5	1053.4
50°	1242.8	1218.7	1115.4	1001.8	943.3
52.5°	1143.0	1105.1	1005.2	891.6	843.4
55°	1025.9	994.9	902.0	795.2	753.9
57.5°	919.2	888.2	802.1	702.3	667.9
60°	819.3	774.6	702.3	616.2	588.7
62.5°	709.2	674.8	612.8	540.5	574.9
65°	609.3	574.9	519.8	530.2	440.7
67.5°	499.2	482.0	433.8	385.6	371.8
70°	406.2	385.6	368.4	316.7	303.0
72.5°	323.6	303.0	278.9	251.3	241.0
75°	244.4	227.2	213.4	203.1	223.8
77.5°	168.7	161.8	151.5	141.1	137.7
80°	110.2	106.7	103.3	99.8	96.4
82.5°	65.4	65.4	65.4	65.4	65.4
85°	34.4	37.9	41.3	44.8	48.2
87.5°	20.7	20.7	24.1	27.5	31.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)