

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: P562543

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562543  
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-LD4-2HI-35-UNV-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

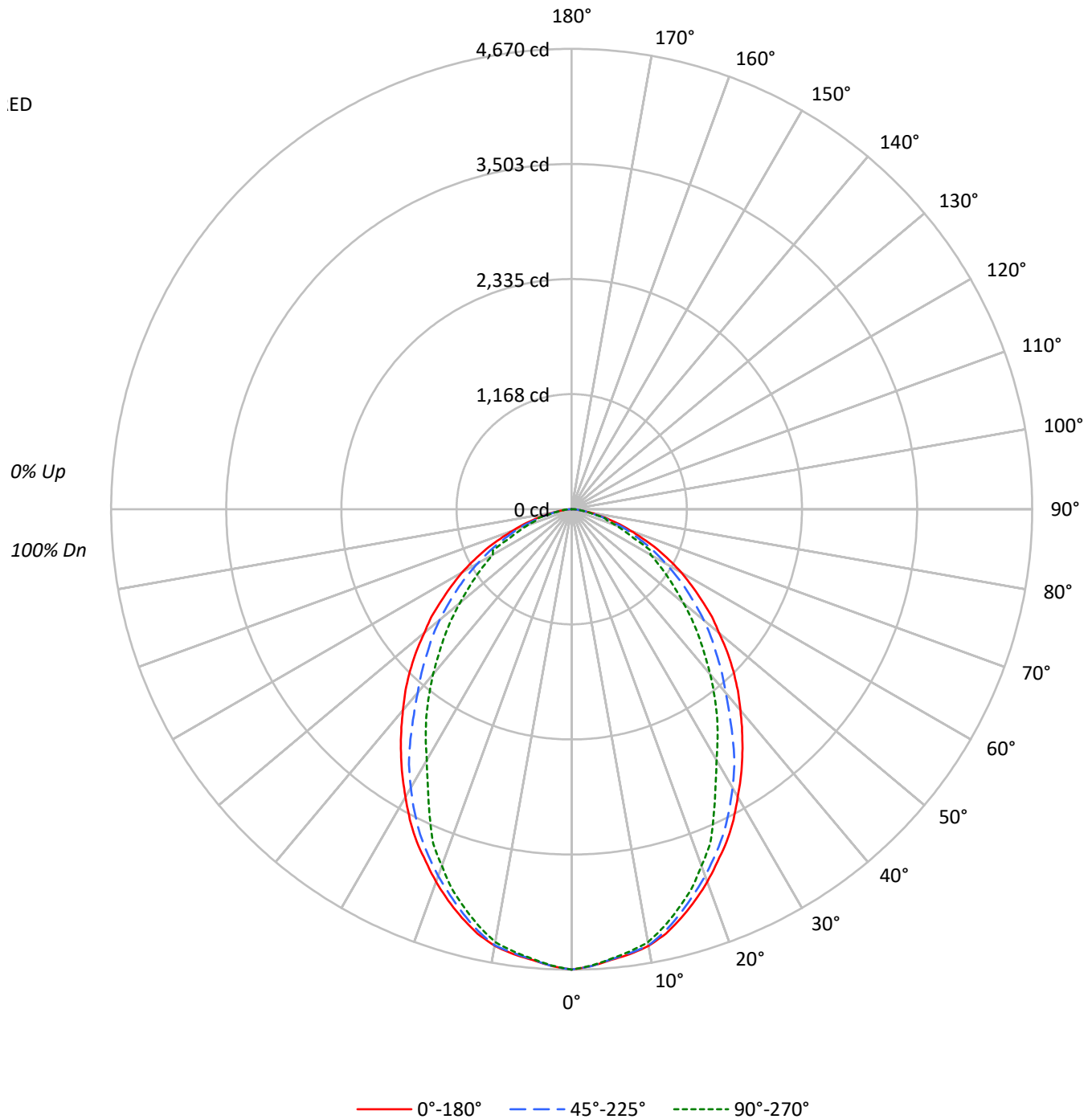
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9167.0 lumens  
Efficiency: N/A  
Efficacy: 106.1 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): 86.4  
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°	6283	6283	6283
5°	6197	6190	6183
10°	6144	6136	6092
15°	5978	5918	5835
20°	5758	5666	5511
25°	5522	5402	5065
30°	5234	5066	4563
35°	4957	4682	4221
40°	4675	4267	3840
45°	4407	3945	3472
50°	4079	3661	3096
55°	3774	3318	2773
60°	3457	2964	2484
65°	3042	2595	2200
70°	2506	2272	1869
75°	1993	1740	1824
80°	1338	1254	1172
85°	834	1000	1167

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4407 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	434.7	4.7
10°-20°	1192.9	13.0
20°-30°	1651.5	18.0
30°-40°	1761.0	19.2
40°-50°	1606.5	17.5
50°-60°	1258.6	13.7
60°-70°	820.3	8.9
70°-80°	363.4	4.0
80°-90°	78.0	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°	3279.1	35.8
0°-40°	5040.1	55.0
0°-60°	7905.3	86.2
0°-90°	9167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9167.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4670	4670	4670	4670	4670	
5°	4589	4583	4583	4578	4578	436
15°	4292	4292	4248	4205	4189	1207
25°	3719	3698	3638	3509	3412	1708
35°	3018	2996	2850	2634	2570	1887
45°	2316	2267	2073	1900	1825	1784
55°	1609	1560	1414	1247	1182	1443
65°	956	902	815	831	691	942
75°	383	356	335	318	351	411
85°	54	59	65	70	76	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4669.5	4669.5	4669.5	4669.5	4669.5
2.5°	4637.2	4637.2	4637.2	4631.8	4631.8
5°	4588.6	4583.2	4583.2	4577.8	4577.8
7.5°	4550.8	4545.4	4540.0	4534.6	4523.8
10°	4496.8	4496.8	4491.4	4464.4	4459.0
12.5°	4410.4	4405.0	4383.4	4345.6	4334.9
15°	4291.7	4291.7	4248.5	4205.3	4189.1
17.5°	4162.1	4156.7	4102.7	4059.5	4037.9
20°	4021.7	4011.0	3957.0	3886.8	3849.0
22.5°	3865.2	3865.2	3800.4	3708.6	3670.9
25°	3719.4	3697.8	3638.5	3508.9	3411.7
27.5°	3552.1	3519.7	3454.9	3271.4	3158.0
30°	3368.6	3352.4	3260.6	3023.1	2936.7
32.5°	3195.8	3168.8	3071.6	2823.3	2753.1
35°	3017.7	2996.1	2850.3	2634.4	2569.6
37.5°	2839.5	2812.5	2629.0	2456.2	2375.3
40°	2661.4	2629.0	2429.2	2272.7	2186.3
42.5°	2494.0	2450.8	2256.5	2089.2	1992.0
45°	2315.9	2267.3	2073.0	1900.2	1824.6
47.5°	2137.7	2094.5	1916.4	1738.3	1651.9
50°	1948.8	1911.0	1749.1	1570.9	1479.1
52.5°	1792.2	1732.9	1576.3	1398.2	1322.6
55°	1608.7	1560.1	1414.4	1247.0	1182.2
57.5°	1441.4	1392.8	1257.8	1101.3	1047.3
60°	1284.8	1214.6	1101.3	966.3	923.1
62.5°	1112.1	1058.1	960.9	847.5	901.5
65°	955.5	901.5	815.1	831.3	691.0
67.5°	782.8	755.8	680.2	604.6	583.0
70°	637.0	604.6	577.6	496.6	475.1
72.5°	507.4	475.1	437.3	394.1	377.9
75°	383.3	356.3	334.7	318.5	350.9
77.5°	264.5	253.7	237.5	221.3	215.9
80°	172.7	167.3	161.9	156.6	151.2
82.5°	102.6	102.6	102.6	102.6	102.6
85°	54.0	59.4	64.8	70.2	75.6
87.5°	32.4	32.4	37.8	43.2	48.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)