

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: P561767

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-93-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561767  
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-35-UNV-93-87-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

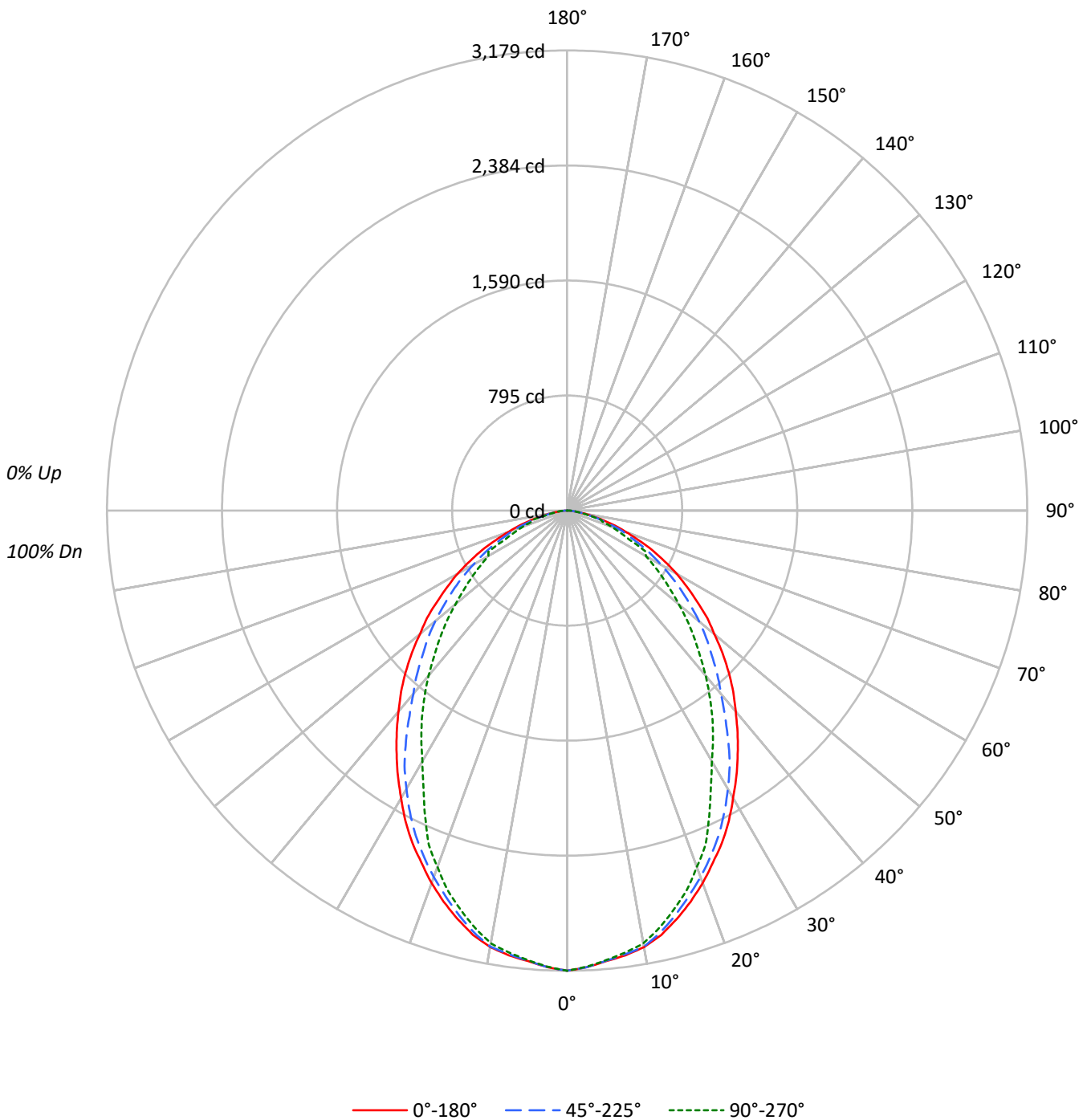
Lumens per Lamp: N/A  
Luminaire Lumens: 6241.0 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8555	8555	8555
5°	8439	8429	8419
10°	8366	8355	8295
15°	8140	8058	7945
20°	7841	7715	7504
25°	7519	7355	6897
30°	7126	6898	6212
35°	6749	6375	5747
40°	6365	5810	5229
45°	6000	5371	4727
50°	5555	4985	4216
55°	5138	4518	3776
60°	4708	4035	3383
65°	4142	3534	2995
70°	3412	3094	2544
75°	2713	2370	2484
80°	1822	1709	1595
85°	1136	1362	1590

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6000 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	295.9	4.7
10°-20°	812.2	13.0
20°-30°	1124.4	18.0
30°-40°	1198.9	19.2
40°-50°	1093.8	17.5
50°-60°	856.9	13.7
60°-70°	558.5	8.9
70°-80°	247.4	4.0
80°-90°	53.1	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°	2232.5	35.8
0°-40°	3431.4	55.0
0°-60°	5382.0	86.2
0°-90°	6241.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6241.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3179	3179	3179	3179	3179	
5°	3124	3120	3120	3117	3117	297
15°	2922	2922	2892	2863	2852	821
25°	2532	2518	2477	2389	2323	1163
35°	2054	2040	1940	1794	1749	1284
45°	1577	1544	1411	1294	1242	1215
55°	1095	1062	963	849	805	982
65°	650	614	555	566	470	641
75°	261	243	228	217	239	280
85°	37	40	44	48	52	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3179.1	3179.1	3179.1	3179.1	3179.1
2.5°	3157.0	3157.0	3157.0	3153.4	3153.4
5°	3124.0	3120.3	3120.3	3116.6	3116.6
7.5°	3098.2	3094.6	3090.9	3087.2	3079.9
10°	3061.5	3061.5	3057.8	3039.4	3035.7
12.5°	3002.7	2999.0	2984.3	2958.6	2951.2
15°	2921.8	2921.8	2892.4	2863.0	2852.0
17.5°	2833.6	2829.9	2793.2	2763.8	2749.1
20°	2738.1	2730.7	2694.0	2646.2	2620.4
22.5°	2631.5	2631.5	2587.4	2524.9	2499.2
25°	2532.2	2517.5	2477.1	2388.9	2322.8
27.5°	2418.3	2396.3	2352.2	2227.2	2150.0
30°	2293.3	2282.3	2219.8	2058.1	1999.3
32.5°	2175.7	2157.4	2091.2	1922.2	1874.4
35°	2054.5	2039.8	1940.5	1793.5	1749.4
37.5°	1933.2	1914.8	1789.8	1672.2	1617.1
40°	1811.9	1789.8	1653.9	1547.3	1488.5
42.5°	1698.0	1668.6	1536.3	1422.3	1356.2
45°	1576.7	1543.6	1411.3	1293.7	1242.2
47.5°	1455.4	1426.0	1304.7	1183.4	1124.6
50°	1326.8	1301.0	1190.8	1069.5	1007.0
52.5°	1220.2	1179.8	1073.2	951.9	900.4
55°	1095.2	1062.1	962.9	849.0	804.9
57.5°	981.3	948.2	856.3	749.7	713.0
60°	874.7	826.9	749.7	657.9	628.5
62.5°	757.1	720.3	654.2	577.0	613.8
65°	650.5	613.8	555.0	566.0	470.4
67.5°	532.9	514.5	463.1	411.6	396.9
70°	433.7	411.6	393.3	338.1	323.4
72.5°	345.5	323.4	297.7	268.3	257.3
75°	260.9	242.6	227.9	216.8	238.9
77.5°	180.1	172.7	161.7	150.7	147.0
80°	117.6	113.9	110.3	106.6	102.9
82.5°	69.8	69.8	69.8	69.8	69.8
85°	36.8	40.4	44.1	47.8	51.5
87.5°	22.1	22.1	25.7	29.4	33.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)