

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: P560158

Luminaire Tested: FSR-12-2-LD4-1STD-50-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560158  
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-12-2-LD4-1STD-50-UNV-82-97-EDD-90  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

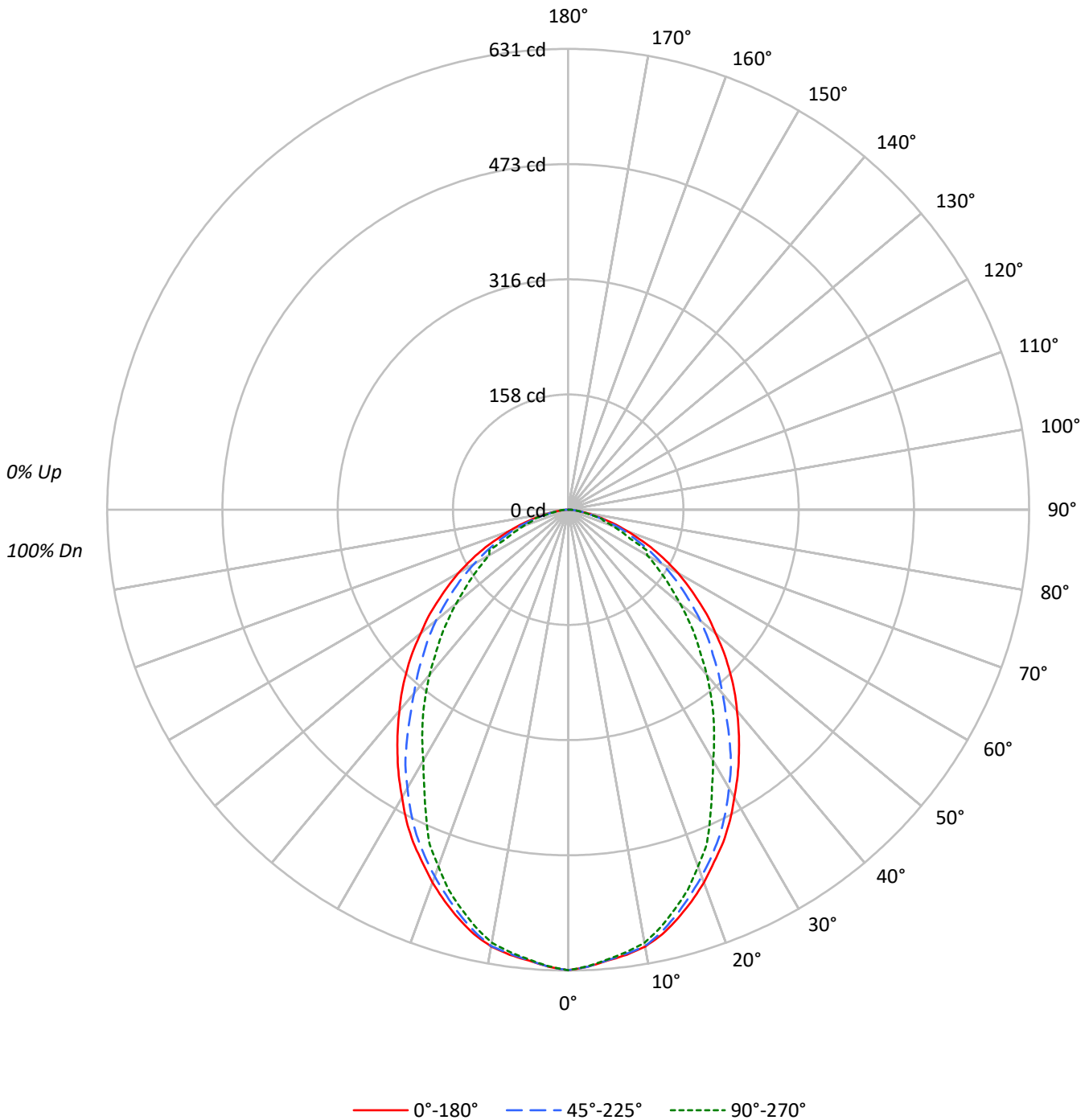
Lumens per Lamp: N/A  
Luminaire Lumens: 1238.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3394	3394	3394
5°	3348	3344	3340
10°	3319	3315	3291
15°	3229	3197	3152
20°	3111	3061	2977
25°	2983	2918	2736
30°	2827	2736	2465
35°	2677	2529	2280
40°	2525	2305	2075
45°	2381	2131	1875
50°	2204	1978	1673
55°	2039	1792	1498
60°	1868	1601	1342
65°	1643	1402	1188
70°	1353	1227	1010
75°	1077	940	986
80°	722	679	632
85°	451	537	630

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2381 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.7	4.7
10°-20°	161.1	13.0
20°-30°	223.0	18.0
30°-40°	237.8	19.2
40°-50°	217.0	17.5
50°-60°	170.0	13.7
60°-70°	110.8	8.9
70°-80°	49.1	4.0
80°-90°	10.5	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°	442.8	35.8
0°-40°	680.7	55.0
0°-60°	1067.6	86.2
0°-90°	1238.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1238.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	631	631	631	631	631	
5°	620	619	619	618	618	59
15°	580	580	574	568	566	163
25°	502	499	491	474	461	231
35°	408	405	385	356	347	255
45°	313	306	280	257	246	241
55°	217	211	191	168	160	195
65°	129	122	110	112	93	127
75°	52	48	45	43	47	55
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	630.6	630.6	630.6	630.6	630.6
2.5°	626.2	626.2	626.2	625.5	625.5
5°	619.7	619.0	619.0	618.2	618.2
7.5°	614.6	613.9	613.1	612.4	610.9
10°	607.3	607.3	606.6	602.9	602.2
12.5°	595.6	594.9	592.0	586.9	585.4
15°	579.6	579.6	573.8	567.9	565.7
17.5°	562.1	561.4	554.1	548.2	545.3
20°	543.1	541.7	534.4	524.9	519.8
22.5°	522.0	522.0	513.2	500.9	495.7
25°	502.3	499.4	491.4	473.9	460.8
27.5°	479.7	475.3	466.6	441.8	426.5
30°	454.9	452.7	440.3	408.3	396.6
32.5°	431.6	427.9	414.8	381.3	371.8
35°	407.5	404.6	384.9	355.8	347.0
37.5°	383.5	379.8	355.0	331.7	320.8
40°	359.4	355.0	328.1	306.9	295.3
42.5°	336.8	331.0	304.7	282.1	269.0
45°	312.8	306.2	280.0	256.6	246.4
47.5°	288.7	282.9	258.8	234.8	223.1
50°	263.2	258.1	236.2	212.2	199.8
52.5°	242.0	234.0	212.9	188.8	178.6
55°	217.3	210.7	191.0	168.4	159.7
57.5°	194.7	188.1	169.9	148.7	141.4
60°	173.5	164.0	148.7	130.5	124.7
62.5°	150.2	142.9	129.8	114.5	121.7
65°	129.0	121.7	110.1	112.3	93.3
67.5°	105.7	102.1	91.9	81.7	78.7
70°	86.0	81.7	78.0	67.1	64.2
72.5°	68.5	64.2	59.1	53.2	51.0
75°	51.8	48.1	45.2	43.0	47.4
77.5°	35.7	34.3	32.1	29.9	29.2
80°	23.3	22.6	21.9	21.1	20.4
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.0	8.7	9.5	10.2
87.5°	4.4	4.4	5.1	5.8	6.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)